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PRESIDENT'S ANNUAL ADDRESS.

BY J. G. REID, D.D.S., CHICAGO. READ BEFORE THE ILLINOIS STATE DENTAL SOCIETY, AT ROCKFORD, MAY 14-17, 1901.

A year ago the greatest unexpected event of my life occurred, when by your votes you declared me your presiding officer for the present year. Furthermore, I am not unmindful of the fact that to be the recipient of the highest possible honor which lies within the gift of a state organization at first impresses the mind of an individual possessed of a modest temperament with some fear and apprehension as to the success or failure of the undertaking. However, I assume the duties of an uncoveted office with a justifiable pride, feeling that I shall preside over a meeting this year which for a record of work accomplished in the dissemination of useful information, both of a practical and scientific nature, has never been surpassed. I base this prophecy upon the program presented, and the innovation of putting it into the hands of the members fully two months in advance of the meeting; thus giving each one ample time and opportunity to prepare his or her thoughts upon the various subjects and present them to the advantage of all concerned.

In glancing over the books containing the records of the secretary not long since I was somewhat startled at some of the disclosures—did not discover that the secretary had defaulted, but found a long list of members in arrears for annual dues—fifty-seven, one year delinquent; twenty-three, two years; and twenty, three years, making a total of one hundred in all. I speak of this at the present time not in a dunning spirit—for no doubt notices have been forwarded many times calling attention to the obligation. The society does not suffer appreciably in a financial way, so much as it is greatly harmed in the depletion of its numerical strength. The reinstatement of those dropped for non-payment of dues becomes the exception and not the rule. We have room in this society to

comfortably take care of all who may wish to avail themselves of the great advantages to be found in an association such as is here represented; and if you continue a member in good standing for twenty-five consecutive years your financial obligations cease and you are then enrolled as a life member. This of itself is a gratifying future to look forward to, so pay up your dues.

I would now like to refer to some of the more recent things which to my mind have done so much towards the uplifting of dentistry as a profession during the past century. The establishment of dental educational institutions naturally comes first. Closely following is the rapid multiplication of dental societies throughout the country, not only at home but abroad; not being satisfied with local and national societies, we have broadened to such an extent as to require international conventions; hence the crowning event has been the establishment of the "International Dental Congress." These congresses have already convened at intervals a sufficient number of times to convince the most skeptical of their benefits, and further, self-convincing proof may be found in the records of their deliberations.

The shadows of the recent congress held in Paris last year have in nowise faded from our view. The American sojourners constituted no small part in its general makeup. The scientific literary productions presented from their pens compare most favorably with the contributions from other countries on dental subjects; in fact, I do not hesitate to say that five of the best papers read before that congress from a practical and scientific point of view had their origin in the brains of men intimately identified with the Illinois State Dental Society. With Brophy in the field of "Oral Surgery," Case in "Orthodontia," Harlan in "Materia Medica and Therapeutics," Hinkins in "Chemistry," and Cook in "Bacteriology," do you wonder that we allow our home enthusiasm to languish in the failure to publicly acknowledge their efforts. Therefore I am of the unalterable opinion that local, state, interstate and international dental conventions have done more in the past and will continue to do more in the future towards the uplifting of our profession than any other one thing with which I am acquainted. In view of these facts let us not allow our zeal or ambition to languish in pushing forward this most laudable movement. Encourage the younger men, and especially impress upon those just emerging from college doors the

necessity and importance of engaging in society work at the earliest possible opportunity.

The countless benefits to be derived from associative work tend greatly to lessen the graver responsibilities which so frequently waylay the young practitioner in his earlier experiences. The influence of personal contact with older and more experienced workers cannot be otherwise than beneficial in moulding, cultivating and stimulating a higher grade of professional character and attainment.

Furthermore, the familiar faces which I see here to-day, and which for more than a quarter of a century have rarely failed to be present at the first sound of the gavel, should most impressively remind the younger members of this society that those old leaders are still worthy of emulation. I feel safe in saying that the Illinois State Dental Society to-day is a recognized leader in dental circles, and as such its standard must be maintained in the future as it has been in the past. The available talent at our command in the various fields of dental science justifies our faith in believing that we are still in the front rank of progress. I point with a special and justifiable pride to our local emissaries who have and are now awakening a new interest in the department of "Dental Prosthesis." We are just upon the threshold of a great revival in prosthetic dentistry, the results of which will in a few years place it in the position of a dignified art. The introduction of the electric furnace with up-to-date improvements, handled by men specially gifted in porcelain dental art, is making a deep inroad in the development of public appreciation of our calling. The distasteful exposition of all-gold crowns, and the occasional appearance of the sparkling diamond inlay, will eventually be supplanted by a substitute more nearly approaching nature's own design.

After almost fifty years of prolonged effort to secure legislation creating a dental service in the army, we find the demand has at last been practically recognized, and that the dental profession has achieved this important victory, so why should we stand idly by and allow other fields to go unnoticed. The public and private eleemosynary institutions, one or more of which is to be found in every city of importance throughout this broad land, are filled with inmates needing dental attention; that they do not receive dental intervention, except in rare instances and which is then partially

charitable, is a well-known fact. It seems to me that if some well-formulated effort by this society were made in the shape of a petition to the legislature, stating plainly the objects to be attained and the benefits that would undoubtedly accrue by placing these helpless people within reach of a blessing that does so much towards the promoting of peace, health and happiness in the human family—that body would in time recognize such a movement. The agitation and discussion of questions like this in dental societies fall within the domain of a popular public sentiment, and cannot be construed as an overambitious desire on the part of a modest profession to gain notoriety.

The contributions to our dental literature during the past year touching upon the question of dental education are evidence that the subject is one of continued interest. I approach the issue with a feeling that perhaps too much has already been said; yet the very rapid and largely increased additions to our ranks from year to year disclose an utter and apparent disregard of considerations that are keenly felt, not only by the laity in general, but by many of those who are actually engaged in preparing and educating men for the practice of dentistry. In view of the impassionate criticisms expressed by men well qualified to pass unerring judgment upon questions of vital importance pertaining to these matters, I am led to speak. A profound impression was recently conveyed to my mind by a speaker, whom we all admire and whose ideals and attainments are commensurate with his calling, who unburdened himself in the following language: "I say fearlessly that there are men in this country to-day expending the best energies of their lives in trying to teach dentistry to men who are not qualified to accept that teaching." I deplore more and more the fact that men are admitted to our colleges to study dentistry who are not qualified to study any profession." Still another teacher, who has a world-wide reputation as a thinker and investigator, and whose literary efforts have done so much towards making dentistry what it is at the present time, said that "Students (not all students) admitted to our dental colleges are insufficiently equipped mentally to grasp and comprehend the subjects as now taught in our best schools." To my own knowledge the profession has been rasping its lungs sore for twenty-five years, pleading and imploring for a higher preliminary education as a prerequisite for entrance into our institutions. The recognition in

this direction thus far has not been commensurate with the amount of time and energy expended to bring about such a result. The prime motive which should inspire organized dental educational effort ought to be in the direction of selecting increased quality rather than increased quantity of dental aspirants. The intellectual demands made upon the practitioner of dentistry to-day are of such an exhausting nature as to require the best skill and judgment, and unless the foundation of preliminary education be carefully laid we must expect to meet with a large number of incompetent and unqualified dental graduates.

I will ask in all candor, to whom are we to look for a reformation of the defects herein outlined. A possible solution may be found in the subjoined extracts taken from a paper written by a deceased member of this society, which was published a few months ago, as follows: "Are the schools properly preparing their pupils for the exacting duties of the intelligent dentist? . . . That many students are graduated who are sorely lame in the mastery of the mechanical principles involved in ordinary dental operations is equally true. That the schools as a whole are sadly lacking in producing graduates who are mentally equipped to successfully grapple with the conditions which confront them in every-day practice no well-informed college man will deny. That many students enter annually upon a college course in dentistry who are wholly unfit to enter upon the study and mastery of any profession is a self-evident fact. If the foregoing propositions be true, then it is indeed time that an earnest reform be inaugurated. . . . It now becomes necessary that our dental schools be educational centers. . . . A course extending over four years is a necessity. Properly equipped chemical, histological, bacteriological and physical laboratories must be installed, with a thorough course of instruction to be given in each of the above departments by a master of those branches. . . . Well selected libraries and museums must be installed and students encouraged to make liberal use of them. Under such training and from such a course of instruction the graduate can enter the competitive field and succeed. Will the dental colleges meet these new requirements? There are over fifty recognized colleges having a membership in the National Association of Dental Faculties. It is needless to say that not more than one-third of this number could survive if required to take up thorough

work and maintain a strictly educational institution. . . . There are far too many now of the lower grade schools and too few of the better class. . . . The meager equipment, facilities and teaching force offered students to acquire a knowledge of the art and science of dentistry in many of our now recognized schools makes one blush to realize that such excuses should be recognized by a great national organization. The question naturally arises, do the better schools, for we have worthy dental institutions in this country, really know how inefficient and absolutely inadequate many of our so-called recognized colleges are? If so, why should they consent to lend their aid and powerful influence to perpetuate such conditions? This is what they do by uniting their forces in one great national organization. A very meager advance has this great national organization made. We need more time to properly prepare a young man for the profession of dentistry than for the profession of medicine. The distinction between the general practice of medicine and the practice of dentistry is founded upon mechanics, or a technical training of what men do with their fingers. This foundation of finger training which is so essential and necessary cannot be fully acquired in the time now allotted by our best schools. The requirements for entrance to a medical school are much higher than those prescribed by the Faculties' Association. In the former case the course now almost invariably covers a period of four years, and with few exceptions eight months to each course.

. . . The question arises, will the N. A. D. F. continue the policy of backing up and recommending schools prepared to offer simply meager mechanical discipline to students? Will this organization continue to back up schools now in the majority, whose equipments and teaching are at the lowest possible level, rather than on an equality with the best? Will it continue to admit students mentally unfit to enter upon the study of any profession?"

I might go on adding many other interrogatories to the above few brief extracts, but will close with this added thought, that proper dental legislation will go a long way towards making the pathway smooth, especially in Illinois. Recent experiences and abundance of evidence go to show the palpable wrongs that are and have been heaped upon an unsuspecting community and especially the dental profession in the great state of Illinois during the past few years.

I feel that an injustice might be done were I to bring this brief

and somewhat disconnected address to a close without paying special tribute of respect to the memory of our departed friend, Uncle George H. Cushing. Words from my lips can but faintly express the unbounded love, esteem and admiration each and every one of us had for him. He was the very embodiment of all that was good. "With a wisdom to act born of a true heart, his life was a glorification of simplicity, straightforwardness and truthfulness. Never false, he was the implacable foe of falsity in others. It was a characteristic of his to discountenance all things that bordered on flashiness or that were foundationless. In character as well as abilities he was a man of very unusual force and value." As most of you know, he was one of the founders of this society, and from its inception up to the time he became incapacitated through physical disabilities he was among the first on the scene of action and the last to retreat from its deliberations. In view of these facts, with others unmentioned, I would suggest that a suitable memorial be drafted, accompanied by a likeness, and that they be printed in the transactions of this society in a conspicuous place.

Before closing I wish to commend the work accomplished by the executive committee and supervisor of clinics. Finally, I would ask you to stick strictly at all times to the text under discussion, and respond promptly to the duties and obligations you have so kindly assented to perform, and I am sure we shall all be greatly benefited and go away from this meeting with a feeling that we are still classed among the noble and dignified professions.

Discussion. *Dr. C. N. Johnson*, Chicago: There are two points in this address to which I should like to call attention. A few minutes ago I pinned a life membership badge on Dr. Crouse, and remarked that the number of those badges was growing every year. He replied that it was true, but that the charter membership was not growing any larger; and excepting him, I do not believe there is another charter member here to-day. All this means that if the membership of this society changes almost entirely in thirty-seven years, the young men who are to keep up the record must put their shoulders to the wheel, for the work from now on devolves upon them. Many men have said that they owed more of their success in life to this society than to any other one thing, and the young men must be brought to see the value of society work.

The second point is this: As a man who has devoted considerable

time and attention to dental education I am not willing to remain quiet longer and be classed as a member of the Faculties' Association when it admits and retains some of the schools that are in it to-day. If the Association sees fit to continue whitewashing incompetent colleges as it has done in the past, and to receive as members schools which are verging on the disreputable, then the sooner it disbands the better it will be for dental education. It is a notorious fact that there are colleges in the Association which are not even attempting to do creditable work, and these are not necessarily the younger, weaker or smaller schools, as some of the worst sinners are among the older members. We can no longer go on as we have in the past and be judged either in this country or abroad by the standard represented in some of these schools. Foreigners examine our colleges and then carry back the report that even those which are members of the N. A. D. F. are doing disreputable work. The reputation of American dentistry is being jeopardized abroad to-day because we have allowed such a state of affairs to exist.

Dr. J. N. Crouse, Chicago: Thirty-seven years ago, after I had attended one course of lectures and had come home for the summer, an older brother of mine who was practicing medicine handed me a circular calling upon the profession of the state to meet in Chicago to organize the Illinois State Dental Society. He advised me to go and I went, and that advice was probably the greatest thing that ever happened to me, because it started me on society work before I had even begun practice, and since then I have always taken away much more from meetings than I was able to give. If there is one piece of advice which I could give to a young man it would be to unite himself with his profession in this way. The good is not altogether in what he learns, but the association with his fellows makes a man of him and keeps from doing little things which he might not stop at otherwise.

Dr. C. R. Taylor, Streator: One of the best results of this society's work is shown right here in Rockford, where only two or three out of thirty dentists are at all questionable in their methods or not on friendly terms with the rest. The same is true in many other towns, and I would repeat that one of the best things society work does is to make us friendly with our competitors. One evidence of the value of society work is that the printed proceedings of this organization form the best dental library that can be had.

We shall never obtain the best work from our colleges until the financial element is eliminated. It does not seem to me that the faculties of dental schools should be the ones to set the standard of what we must have, for they naturally have personal interests. We are unfortunate in having no national legislation to make universal laws for the whole country.

Dr. G. D. Sitherwood, Bloomington: When I advised a young dentist recently to attend this meeting he replied that he could not, but asked if I would not bring him back all the new ideas. That is impossible, for the help which we get at meetings is just what we cannot give away. The N. A. D. F. would be all right if it lived up to its rules. One great trouble lies in the fact that colleges admit young men who have been repeatedly advised by dentists that they will never be a success in this work.

Dr. W. A. Stevens, Chicago: This society and nearly all others seem to be united on the opinion that students should have a better education before they are admitted to the colleges. When president of this society five years ago I wrote to twenty-four different colleges asking them for facts concerning the educational requirements of their students. There was not a college graduate in any of them, and only a few had high-school or academy graduates.

Dr. A. W. Harlan, Chicago: While the president discussed many matters which are of interest to the profession, it seems to me that the object of this society is to organize the dentists of the state and not to throw bricks at dental colleges. The dental educational question will take care of itself just as the literary educational question has done, when it has a past sufficiently long. Dental societies abroad do not discuss this question as we do. Education is based on fixed lines, and men become connected with colleges and institutions because of fitness to teach certain things, and the longer they work the more efficient they become, so that question doesn't take up their time.

What is the use of having a Faculties' Association? There is no Association of Universities. No one supposes that Edinburg, Cambridge and Oxford, and all the others have an organization. A man goes to an institution of that kind because he believes that its atmosphere is best suited to his education and to his mental development, but the students who go to the various institutions in the United States first inquire whether they can get through easily.

Any association of colleges taking in that sort of material lowers itself at home and abroad, and if the N. A. D. F. does not raise its standard the colleges which are doing good work must leave it.

I do not believe in this idea of having a potpourri program. Each year the society should have at least two strong scientific papers. All essays should be on practical subjects, and capable men should be appointed to handle same. No one comes here to listen to a primer essay or to a lot of platitudes which are plain to all.

Dr. Edmund Noyes, Chicago: Inasmuch as there seems to be no other place on our program where the subject of dental education would naturally come, it is entirely appropriate that it should be made prominent in the president's address and be discussed now.

The N. A. D. F. deserves great commendation for the work it did during the first years of its existence, but at the present time the poorly equipped schools seem able to outvote the better ones, and most surprising, the best schools allow their standards to be held back by the weaker ones. I cannot understand the Faculties' Association giving the right to a student who has taken his first year's training in a weak school to be admitted to the second year of one of the best ones, yet I understand such is the case.

In criticizing the colleges it must always be remembered that they are business enterprises and must be made successful from the business standpoint, that is, until they are sufficiently endowed to be independent. Consequently, the business and teaching managements cannot be absolutely separated. Finally, the profession is just as much to blame for low standards of entrance requirements as the colleges themselves, for the same dentists who scold about the N. A. D. F. and the colleges keep a boy in their offices to help them during the year, when he should be in school, and then try to secure his admission to a dental college.

ART AND INVENTION. REPORT OF THE COMMITTEE.

BY HART J. GOSLEE, D.D.S., CHICAGO. READ BEFORE THE ILLINOIS STATE DENTAL SOCIETY, AT ROCKFORD, MAY 14-17, 1901.

It has again become the pleasant duty of your committee, in the exercise of its function, to ascertain that letters of patent have been granted on something over one hundred appliances during the past year; to communicate with the inventors, and to secure for presentation such devices as were calculated to be of interest. These

inventions cover a broad field of usefulness and indicate an increasing degree of that genius which is characteristic of the dental profession. That the progress and development of dentistry owes much to the inventive genius displayed by so many in the ranks and otherwise interested is an indisputable fact, and the past year has compared favorably with preceding ones.

Our communications met with a hearty response, and of those articles submitted the following have been selected for presentation in accordance with the broadest interpretation of the function of this committee; hence if the report is lengthy the responsibility lies with those who suggested the present interpretation of duties involved.

1. *Hot Water Sterilizer.* All interested in sterilizers will be at once taken with the neatness and efficacy of this apparatus. It is highly ornamental and consists of an outer chamber in which the water or sterilizing fluid is placed. In the center of this is a smaller chamber for instruments, with perforations through the sides, which are covered with a metal gauze. The sterilization is accomplished by the vapor or steam penetrating into this chamber, which overcomes the necessity for *absolute* immersion. There is also a sand-bath on one side, which is useful for many small instruments when dry heat alone is desirable, and a faucet on the outside enables the operator to have boiling water *ad libitum*. This will at once recommend itself for universal usefulness. Designed by Dr. A. J. Cronkite, Los Angeles.

2. *Favorite Sterilizer.* This apparatus has been made to meet the requirements of a sterilizer which would be compact and accomplish its purpose by an absolutely odorless and dry method. It consists of a copper-plated chamber, with close-fitting hinge cover that opens and closes easily. The bottom of chamber is provided with a thick pad of felting, upon which the instruments rest.

The sterilization is very rapid, and as the chamber is but eight inches long it can be placed upon the operating table and opened and closed with one hand at will. A one-ounce bottle of sterilizing fluid is supplied with the chamber, all complete and ready for immediate use. Your committee is of the opinion that direct immersion in a suitable sterilizing solution would be quicker and more effective, although this may serve the purpose. The formula of fluid accompanying outfit is not given. Presented by H. D. Justi & Son.

3. *Electric Mouth-Lamp and Root-Dryer.* These are very valuable appliances to one having the advantages of electricity. They can be used on either direct or alternating current, and are neat and nicely made. The plug will fit in a lamp socket and the two appliances are interchangeable on the other end of a silk cord, which contains wires furnishing the necessary resistance for the capacity of the lamp or dryer, thus doing away with the necessity of a rheostat. The points of the canal dryer are of various sizes of copper, heavily gold-plated and removable. Presented by the Garhart Dental Manufacturing Company, Indianapolis.

4. *Hammond Electric Furnace.* Although comparatively new, this furnace has met with much favor and success. It is novel and neat in design, and possesses the advantages of a removable or interchangeable muffle, and of working equally well on either the direct or alternating current. The rheostat is formed in the base and covered by an imitation onyx slab, upon which the muffle, switch and controlling lever are situated. The muffle is small, being intended only for inlays and single crowns, which can be baked of the highest grade bodies in from five to ten minutes. For the purposes intended its use is eminently successful and satisfactory, but no effort should be made to bake larger work than can be accommodated crosswise in the muffle, as the heat varies, and is greatest in intensity toward the back. Designed and manufactured by J. F. Hammond, New York City. (Reeves.)

5. *Dental Elevators.* These comprise a set of four elevators, scientifically and practically constructed, for the removal of badly broken-down posterior roots. They interlock at any angle in a handle large and strong enough to rest firmly in the hand, by which means, when the blade is held securely against the root with the fingers of the left hand, it may be lifted out by a rotary movement of the handle with ease and dexterity. Presented by Dr. X. Dodel, San Francisco.

6. *"Fellowship" Right Angle Engine Mallet.* This mallet may be attached to any handpiece in manner similar to that employed with angle attachments, or it may also be used with a slip-joint, and work independent of the handpiece. The rapidity of blow is regulated by the speed of engine, every revolution of handpiece spindle giving a blow. The strength of blow is regulated by the pressure of the hand. The hammer is journaled between two

bearings to insure steady running, and the entire instrument is made of steel. The plugger points are readily changed without inconvenience, for contrary to the method used in other similar appliances, they are not screwed in, but are held in place by a spring catch. It will be found particularly useful in filling distal cavities in lower posterior teeth, and can be most highly recommended by your committee. Invented by Dr. S. G. Perry, New York, and presented by the Dental Protective Supply Co., Chicago.

7. *Aluminum Floss Holder.* This little contrivance is the design of W. C. Coryell of Scranton, Pa. Being made of aluminum, it is light in weight and neat in appearance, and so shaped as to admit passing the floss between the teeth with facility. The floss is passed through the grooves on either end of forks, retained by a few twists, and the free ends then wrapped around the forefinger.

8. *Antiseptic Floss Toothpick.* This essence of ingenuity tinged with originality is the invention of Dr. James W. Cowan, Geneseo, N. Y., and is designed to remove particles of food from the spaces between the teeth, and to clean and sterilize those surfaces which the toothbrush cannot reach. The appliance consists of a hollow metallic case about the size and shape of a small pen-knife, the upper and lower parts being hinged together. A five-yard ball of floss silk, saturated with an antiseptic, is sealed in small glass vials. Each vial when in use is held removably in place by a small spring clip within the butt end of the case, and a spring wire frame, adapted to hold a section of floss securely between its arms, mounted pivotally in the forward end of the case. When it is desired to operate the device, the case is opened, the spring frame turned outward, resting in an opening in the end of the casing, and the cover closed, thus holding the frame in operative position. Successive lengths of the silk as desired are drawn through a slit in the cork which seals the vial, and out through the same opening, and wrapped two or three times into the little hooks on either end of the spring frame, thus providing a taut section of silk which may be easily forced between any of the teeth. When the silk has been exhausted the empty vial is slipped out of its position, thrown away, and a fresh one substituted. When not in use the case is opened, the spring frame folded inward and then closed again, thus protecting the silk and frame from dust, etc., while being carried in the pocket.

9. *Lewis Automatic Plugger, No. VIII.* This is a new double-action automatic plugger, recently placed upon the market by the Buffalo Dental Manufacturing Company. It is a beauty in workmanship and finish, being surrounded by a sleeve of jet-black hard rubber, and the device which regulates the blow works easily and smoothly.

10. *Oxyhydrogen Blowpipe.* A simple and inexpensive combination blowpipe and yoke attachment for the nitrous-oxid cylinder. The attachment possesses such a minute perforation for the escape of the gas as to place its flow under perfect control and insure perfect combustion when properly regulated. Since the success of porcelain bridgework depends to a large extent upon the use and thorough fusing of a solder sufficiently infusible to withstand the vitrification of the high-grade bodies, the oxyhydrogen flame becomes absolutely necessary; and an extensive use of this simple apparatus warrants your committee in recommending it highly. Designed by Dr. W. F. Fowler and made by L. J. Mason & Co., Chicago.

11. *New Glass-Bowl Cuspidor.* A modification of the former style of Fountain Cuspidor made by A. C. Clark & Co., Chicago, in which both the outer and revolving bowls are of heavy ground surface glass. The bowls seem sufficiently strong, are much easier to keep clean, and the reflection of light often found objectionable in the metal bowls is entirely overcome. The valves are situated at the side of cuspidor out of reach of patient, and controlled by a wedge which prevents puncturing the rubber disk.

12. *Crown and Bridge Articulator.* A simple, nicely-made crown articulator possessing a limited but ordinarily sufficient lateral movement. This was designed by Dr. Thomas E. Weeks, Minneapolis, and seems especially adapted to the construction of shell or telescope crowns, and small posterior bridges, where such movement is often necessary and always desirable.

13. *Individual Tooth Clamp.* An ingenious little device designed by Dr. A. B. Allen, Chicago, for the purpose of securely holding plain teeth and facings while grinding. It is adapted to the anterior teeth, either rubber or flat-back, which are held securely when properly adjusted. By its use, grinding of finger-tips and the not infrequent desire on the part of facing to seek the seclusion of remote and inaccessible localities may be avoided. It will

also be found equally useful in finishing metal backings to a close adaptation with the porcelain.

14. *Automatic Saliva Ejector.* The dentist located where the conveniences of running water are not obtainable need not be deprived of the many uses and advantages of the saliva ejector. Dr. C. O. Metzler, Omaha, has lately invented a simple, inexpensive and effective apparatus which may be adjusted to any spittoon attachment. It consists of two cylindrical tubes, the necessary tubing, and a large bulb filled with water, which, first compressed by the foot of operator, then automatically draws the saliva from mouth to one of the cylinders. It is compact and portable, and if the proper degree of cleanliness is observed in using it will no doubt be a splendid thing for many.

15. *Improved Articulator.* This recent invention of Dr. G. R. Johnson, Hastings, Mich., is in the nature of an improvement on the old style Plain Line Articulator. The jaws upon which the models are mounted are removable, in manner similar to the Bonwill, and an adjustable hinge gives greater range in their relation to each other. No special advantage is observed, however, aside from the convenience of removable jaws, which facilitates waxing up and enables one to have several cases under process of construction at the same time.

16. *Disk Carrier.* There is always room for improvement in disk mandrels and carriers, and the inventive genius of one of our own members, Dr. J. Campbell, Bloomington, has evolved something very commendable in this line. A pivot with a large head fits into a cylinder, upon the ends of which are two guide posts, which engage in notches in head of pivot to prevent slipping. A split in the cylinder forms a tongue which engages in a depression on side of pivot and is securely held by a short telescope cylinder which prevents pulling out. It is simple, easy of adjustment, yet seemingly strong and durable.

17. *Individual Dam Holder.* This consists of two telescoping rings about one and one-half inches in diameter, which engage and securely hold a piece of dam of suitable size. The rubber is then punched, the proper clamp selected, and the dam adjusted in position on the tooth. The object is no doubt to keep single posterior teeth dry while treatment is in progress without unnecessary waste of dam, but as the clamp must be adjusted and usually holds the

rubber away from the tooth sufficiently well to admit of treatment, no particular advantage is apparent in this simple little device.

18. *Improved Impression Trays.* This may justly be considered as among the most valuable little inventions of the exhibit. One of the unpleasant features of a plaster impression of the upper jaw is the usual discomfiture produced by carrying the surplus plaster too far back in the mouth. The device consists simply of a removable bottom attached to the ordinary impression tray, which forms a space between it and the concave palatal portion, into which the surplus plaster will be forced, if a rim of wax is previously placed along the heel of the cup. Presented by Dr. H. D. Osgood & Son, Boston.

19. *Universal Separator and Matrix Holder.* This is a recent invention involving some new and good features, and is effective as a separator and matrix holder, and universal in application. While the blades are on the wedge principle, the adjustment is simple, and when in position the instrument lies in close proximity to the incisal and occlusal edges of the teeth, and is entirely out of the way.

20. *Universal Cervical Clamp.* This is equally simple and universal in application. It is adjusted and held securely by means of a lever clamp, which precludes the possibility of slipping. Both of these are the invention of Dr. C. G. Capwell, Boston, and are made by the Consolidated Dental Manufacturing Company.

21. *Dwight Removable Facing.* This consists of a porcelain facing for crown and bridgework, having a platinum-lined box in the center of the palatal surface, which engages a stiff U-shaped spring properly attached to the backing. While the principle is no doubt good, the body of porcelain possessed by an ordinary flat-back facing seems hardly adequate to insure the necessary strength in the attachment, which removable facings must have. Presented by Dr. W. H. Dwight, Le Mars, Iowa.

22. *Dam Holder.* This is a somewhat modified application of an old principle, and was received with the apologies of the inventor, Dr. S. M. Myers, Cleburne, Texas. The modification which this indicates simply shows the manner of grasping the dam so as to prevent slipping or tearing, by the lever clamp, and is intended to be made in the double-bow form. Whether it may possess particular merit or not depends largely upon the manner and range of

adjustment of the double form, which this of course does not show.

23. *Pneumatic Engine Mallet.* This is a plugger and pump designed for the foot engine, or may be attached directly to a motor, and is the invention of Dr. Robert Blum, Corpus Christi, Texas. The advantages claimed are that it delivers ten blows to one of the automatic mallet, and that they are entirely without vibration and may be regulated by the degree of pressure used. There is no blow delivered until the pressure is brought to bear so that gold can be carried on the plugger point, and provision is made for locking the plugger when hand pressure is desired. Where the back action is desired the point may be changed to the other end, when the plugger is brought into operation by pulling.

24. *New Lower Denture Metal.* This is an alloy especially indicated for lower dentures where a cast metal base is desirable. It is easily cast, does not shrink or expand appreciably, and specimen plates made of it present a splendid surface and good color. The formula is not given.

25. *Goslee's Soldering Fluid.* This flux for gold work is the result of an effort to produce a liquid flux that would make possible a maximum degree of facility and thoroughness in the use of borax, and at the same time insure a minimum liability of using more than is necessary. Much injury often results from the extravagant use of powdered borax, and a liquid is much cleaner and more effective. It is composed of borax and boric acid in suitable solution. Both of these are presented by the Chicago Dental Specialty Company.

26. *Combination Screw Elevator and Root Forceps.* The operating end of this instrument is a split tapering screw which, during evulsion of the root, may be expanded at the apex, thus insuring a firm grip, sufficient to remove the most badly disintegrated roots. When such roots are loosened the instrument may then be used as a forcep to remove them. It is applicable only to upper anterior roots, but seems to be admirably adapted to them.

27. *Combination Push Elevator and Root Forceps.* This instrument is designed for the extraction of broken-down posterior roots, and serves the purpose of both an elevator to loosen and forceps to remove. In action the closing of the handles applies a lateral force and the hand sustains the fulcrum, which seemingly

obviates the possible injury from the usual method, where a contiguous tooth or tissue necessarily becomes the fulcrum.

28. *Nasal Chloroform Inhaler.* A simple and ingenious little device commending itself to the anesthetist. It resembles a crib or small inverted cradle made of wire, reaching just beyond the nostrils, and provides for ample ingress of air. It is retained by the shape and spring of the wire frame, supplemented with small silk elastic loops for the ears, and is shaped so as to retain flannel or gauze which may be readily renewed for each case. By its use one is enabled to continue the anesthesia as desired without vexatious delays or interference with operative procedure, providing the patient can breathe freely through the nasal passages, which should previously be thoroughly cleared. Your committee is not prepared to state how effectively complete anesthesia may be thus produced, but has used it to good advantage in several cases where partial anesthesia was indicated for short painful operations. These three devices are the inventions of Dr. E. L. Oldfield, Chicago.

29. *Cruttenden's Cement Syringe.* While this little device was presented at the last meeting, an improvement has since been made to facilitate cleaning. But little criticism can be offered of the thorough filling of canals when mounting crowns by the use of this instrument, yet the same has never been considered a very difficult operation in the ordinary way.

30. *Device for Adjusting Attachment for Removable Bridge-Work.* This consists of a simple mechanical arrangement with an extensive range of adjustment, and is designed to secure an accurate relation between the various fixed or stationary anchorages for removable bridgework. It is simple, small, easy of adjustment, inexpensive and effective.

31. *Device for Mounting Engine Stones.* A concave disk with cylindrical attachment for mounting small corundum or carborundum stones for the engine. The stone is placed in the disk and held securely, and the mandrel inserted through the tube, which, when mounted with cement or shellac, sustains a true relation. It is superbly simple yet accurate.

32. *Mouth Gas-Burner and Combination Root-Dryer.* This ingenious little combination consists of a minute blowpipe which, when attached to a supply valve for illuminating gas with small rubber tubing, affords a means of securing a flame of infinitesimal

proportions, such as may be indicated, and of assistance in mounting crowns and bridges with gutta-percha. A root-dryer suitable for small attenuated canals, and one for roots upon which dowel crowns are to be mounted, of copper heavily gold plated may be attached to the blowpipe in such manner as to be heated by the flame. Where the conveniences of electricity are not obtainable this will be found valuable, and is quite as effective and often more reliable. These three devices are the inventions of Dr. D. O. M. LeCron, St. Louis.

33. *Appliances for Keeping Field Dry in Mounting Crowns and Bridges.* This is another most ingenious apparatus, and is designed for the purpose of facilitating the mounting of lower posterior crowns and bridges, sometimes an arduous and difficult operation. It consists of a chin-piece sustained by elastic band, to which may be adjusted in any position phlanges which pass into the mouth and deflect cheek and tongue, thus leaving the field freely exposed. These are also provided with means of attachment to the siphon and serve as a saliva ejector. By its use the operation of mounting lower bridges will no doubt be much simplified. Designed by Dr. J. J. Wright, Milwaukee.

34. *Rotary Point Contouring Pliers.* A pair of small pliers supplied with convex and concave rotary points in two sizes, and especially designed for contouring shell or telescope crowns. They may be found very convenient for knuckling in the cervical end of the band, or for bulging out the center of the crown to improve the contact; but as the band should fit in the first place, and the contour should be given it before attaching the cusp, their field of usefulness is limited. Presented by Dr. C W. Miller, Chicago.

35. *Crown Adapting and Removing Forceps.* This is a very useful instrument, designed for the purpose of closely adapting the edge of gold crowns to the root after mounting. They may be used also to remove crowns which have become loosened. The beaks are at right angles with the handle, and the ends are shaped to conform to the root about the gingivæ. Its use will no doubt greatly reduce the prevalency of gingival inflammation around the necks of roots carrying these crowns. Designed by Dr. Rudolph Beck, Chicago.

36. *Removable Bridge Attachment.* Since the advantages of removable bridgework, where indicated, are generally admitted,

the ways and means of sustaining such are of importance to all interested in modern prosthesis. Those designed by Dr. W. E. Griswold, Denver, consisting of telescoping U-shaped springs for anchorages to be attached to gold crowns, and of a capsule and spur for roots, are valuable inventions. They are made of a stiff, rigid metal, capable of withstanding stress, and supplied with provisions for tightening, which gives them a wide range of usefulness. The "jig" which is used to sustain parallel relations between the parts is admirably made, simple and accurate in adjustment, and the case may be soldered while in position upon it, which facilitates the work.

37. *Morgan Removable Bridge Attachment.* This style of anchorage is designed especially for removable work, which may be attached to gold crowns. It is strongly made and insures a firm attachment. The opportunity for lateral play is limited, and the whole occupies a minimum amount of space, which is a most desirable feature. The "jig" is novel in design yet simple, and insures accurate and easy adjustment of the parts. Invented by Dr. J. B. Morgan, Davenport, Iowa.

38. *Porcelain Teeth and Bodies.* Improvements in this line are being constantly made, and the latest in teeth consists of a style adapted to plate, crown and bridgework, in which the platinum for retention is solid and so twisted as to be both edgewise and flatwise within the body of porcelain, from which it protrudes in a vertical direction on the lingual surface. The interior angle is so twisted as to key the platinum in the porcelain and overcome any tendency to vertical cleavage. The moulds and colors are good and the principle indicates strength.

Another design is one applicable to single crowns, or as a removable tooth for bridgework. Instead of a pin or plate an oblong box of platinum is baked in the porcelain. Into this box a specially designed post may be soldered at any angle for crownwork, or when used as a removable tooth the attachment may be securely made with cement. The idea is ingenious and seems practical and useful.

An entirely new preparation of high fusing bodies adapted to inlay, crown and bridgework has also been introduced. They consist of a foundation and an enamel body. The former appears to possess a minimum degree of shrinkage, attaches well to the metal

parts, holds the sharpest corners and does not become porous or blister under repeated firings. It comes in three colors. The enamel body is made in a variety of good shades and can be fused on the foundation body without disturbing it, and very beautiful results may be thus obtained. The new shade guide with tapering points for passing in between teeth in the mouth will be much appreciated by porcelain workers. Presented by Mr. Robert Brewster, Chicago.

39. *Hurd's Nitrous Oxid Inhaler.* This is a new inhaler for administering nitrous-oxid, which is adapted to the nose exclusively, and is retained by an elastic band, thus leaving the mouth at all times accessible. The gas cylinder is attached to the chair, and a short rubber tube and small bag or reservoir extend to the inhaler. It is convenient in that the cylinder is at all times under control of the operator, and it is claimed that anesthesia may be prolonged as desired without interfering with the operation. Your committee hesitates to recommend, because of insufficient experience with it and doubt as to its efficacy, but its use will be demonstrated at the meeting. Presented by the Hurd Dental Supply Company, Cleveland.

40. *Ideal Adjustable Operating Stool.* This is simple in construction, neat in appearance, light and durable, and possesses an oil-tempered spring base, which makes it self-adjusting. The seat may be raised or lowered by pressing a spring underneath. For those accustomed to operating with a stool this will readily commend itself. Invented by Dr. G. B. McKinney, Barry, Ill.

41. *Regulating Appliances.* A new set of appliances for regulating recently devised by Dr. C. D. Lukens, St. Louis. The set includes about all that is needed in this work, and comprises some new and original ideas of much merit. Among these are the jack and traction screws, and the adjustable clamp bands. The feature of the latter is the hollow bolt for adjusting it which also admits of the presence of traction screw or alignment wire without additional soldering. They are splendidly made and easily aligned.

42. *Swaging Apparatus.* This apparatus includes many new and ingenious ideas of interest to the prosthetist. It is superbly complete in detail, such as would be indicated for those doing considerable metal work. The Spence metal, of which the die is made direct from the impression, the sectional flask and the method of

attaching the rubber to aluminum bases are important features. The apparatus is designed by Dr. A. Sandvig, Lillehammer, Norway.

43. *Articulator.* The feature herein presented may be attached to any ordinary articulator, and is devised for the purpose of facilitating the removal and readjustment of the models. Designed by Dr. J. W. Bryan, Russellville, Kentucky.

The following articles are presented by the S. S. White Dental Manufacturing Co.: 44. *Combination Oxygen and Nitrous-Oxid Apparatus.* Of late years the admixture of pure oxygen with nitrous-oxid has attracted considerable attention and has been the subject of much experimentation, which it doubtless deserves. The claim made for this admixture is the elimination of the cyanotic and asphyxiating feature of nitrous-oxid anesthesia. The apparatus consists of an attachment for two cylinders, two rubber reservoirs and a central mixing chamber. The cylinder and bag for oxygen being designated by a red color. The whole is neat and compact.

45. *Goslee's Universal Crown Pliers.* These are designed for universal use in crown work and especially adapted to fitting, stretching and contouring bands. The beaks are strong, come together closely and possess rounded edges, which prevent defacing or indenting, and one is smooth while the other is slightly serrated. Designed by Dr. Hart J. Goslee, Chicago.

46. *Reece's Soldering Pliers.* An automatic soldering plier especially adapted to attaching cusps and bands. One end is pointed and turned at a right angle to the other, which retains the cusp securely in its relation to the band while soldering. They are made of a grade of German silver which absorbs very little heat and are very useful for the purpose intended. Designed by Dr. C. N. Reece, Chicago.

47. *Water Syringe No. 36.* The pipe in this syringe is curved and fitted with a metal plate and fills the bulb automatically when hung over the edge of a glass filled with water. Held in the hollow of the left hand when grinding teeth the thumb and forefinger can be used for keeping the patient's mouth open, the syringe responding to the slightest pressure of the bulb.

48. *Poulson's Shaded Pink Rubbers.* The manufacturer has endeavored to get over the objection to a monochrome pink for imitating gum tissue, by a combination of different shades of pink rub-

bers by which it is claimed a more natural color is obtained. Made in two shades, light and medium. The result obtained in this more closely resembles the natural gum than any other.

49. *Gas-Cylinder Yoke Connection.* An improved reinforced yoke, making a safe tight connection between cylinder and gas-bag—improved key which operates both yoke-connection and gas-cylinder valve.

50. *Pyrozone Probe Cup.* A neat glass cup for applying pyrozone, vapocain or other fluids in small quantities, avoiding waste and contamination of contents of original package.

51. *No. 9 Articulator.* Of same general character as the Hunt Articulator, but with jaws slightly curved so that it can be used for partial anterior cases as well as for posterior—the set screw is placed at the end instead of on top.

52. *Peeso's Ladle for Fusible Metal.* The bowl is made of copper, with a rounded lip at right angles to the handle—the handle is supplied with legs so that the ladle can be set down without risk of spilling contents.

53. *Peeso Stretching and Contouring Pliers.* Have short, strong beaks with rounded surfaces, one narrower than the other to permit the band to be pinched in any direction; the handles being comparatively long afford considerable leverage.

54. *Swaging Device.* Consists of a heavy steel plunger inserted in a strong brass barrel; by its use a button of scrap gold can be quickly flattened out or swaged to any desired thickness with smooth, even surfaces and of uniform gauge. Made in two sizes, dimensions of plunger $1\frac{1}{2}$ inches and $\frac{7}{8}$ inch, respectively.

55. *Cavity-Cutting Outfit.* For cutting cavities in artificial teeth for the insertion of gold fillings. The instruments have soft steel heads. The cutting material is a mixture of carborundum and glycerol, called by the trade name of "Carborine." While this may do the work, it is hardly probable that it will ever take the place of the diamond drill.

56. *Handy Instrument Sharpener.* Consists of a two-inch wide metal disk and a paper disk with abrasive surface, between which is inserted a felt disk to form a cushion, the whole mounted on a Huey mandrel. By inserting the sharpener in the handpiece an instrument can be put on edge promptly.

57. *Gold Pulp-Canal Cleansers and Bristles.* These instruments

are like the well-known Donaldson Cleansers and Bristles, except that the material they are composed of is 18-k. spring gold. The cleansers are barbed and the bristles plain only (without hook). They are tough, springy and will follow the canal readily, little likely to break, will not corrode and can be sterilized without risk of rust.

58. *Calcar*. A substitute for Molding Sand. Is free from odor, does not become lumpy from use, retains requisite moisture by exposure to atmosphere, is white in color and clean, copies models exactly and is always ready for use. Put up in two-quart cans. This is quite an improvement on ordinary molding sand, all objectionable features of which are overcome.

59. *Anatomical Articulator*. This consists of a frame constructed upon the Bonwill plan, modified so as to be both an image and reproduction of the jaws. It seems to admit of accurately articulating and occluding the teeth, since the downward, forward and upward movements are possible.

60. *Partial Articulator*. Intended for crown and bridge cases, constructed on the ball and socket principle. This admits of lateral as well as antero-posterior movements, all of which are as essential for crown and bridgework as for full dentures, and if made stronger will no doubt serve a universal sphere of application and usefulness for this work. Both designed and presented by Dr. B. J. Cigrand, Chicago.

61. *Amalgam Carrier*. This is an ingenious automatic carrier for amalgam which may be very useful. Manufactured by A. S. Rutherford, New York, and loaned for presentation by Dr. W. V-B. Ames, Chicago.

62. *Automatic Regulator for Electric Furnace*. This simple and ingenious attachment is designed by Dr. J. E. Hancock, Joliet, Ill. By its use the inflow of electricity into the furnace is controlled by a clock attachment, which is accurate enough to regulate the necessary heat for the "biscuit" bake, and then automatically cuts off the current. This is very useful for this part of the work, but owing to the great variation in voltage is not sufficiently accurate for the complete vitrification of porcelain, which is acknowledged by the inventor.

63. *Back-Action Wrench for Regulating Appliances*. This little device was designed to overcome the difficulty of adjusting

nuts on the posterior ends of alignment wires and traction screws necessarily situated in inaccessible positions in the mouth. This it accomplishes in a splendid and accurate manner and its use will greatly facilitate such work. Presented by Dr. G. E. Brown, Chicago.

64. *Dunn's Universal Clamp No. 3.* This is a modification of the former designs of this invention whereby the clamp is made more effective and universally applicable. It has a range sufficient to admit any tooth, is easily adjusted, and will be found very useful, especially for cervical cavities. Presented by Dr. J. Austin Dunn, Chicago.

65. *Broach Holder.* This is a simple cylindrical tube. If the end of a broach of ordinary size is bent with a pair of pliers to a slight angle it will be securely held in the tube by friction. Presented by Dr. C. B. Powell, Jacksonville, Ill.

66. *Dry Cell Electric Mouth Lamp.* This is presented by Dr. A. Tschirner, St. Louis. It is nicely mounted in a small leather case and includes two sizes of mirrors. The batteries are situated in the lower portion of the case and consist of five dry cells of sufficient power to last for some time. While dry cells are somewhat uncertain, this will be useful for the purpose of diagnosis, etc., where a more positive current cannot be procured.

67. *The Holdfast Capsicum Plaster.* A new dental plaster which is to be recommended because of its admirable adhesive qualities. Presented by Parkington & Slaight, Albany, N. Y.

68. *Haycock's Antiseptic Hypodermic Syringe.* This is a heavy, well made, all-metal syringe which contains no packing, and may be kept perfectly antiseptic.

69. *Gold Annealer.* This is a very useful alcohol annealer recently designed by Dr. W. E. Harper, Chicago. The tray for gold is made of a high grade of thin corrugated German silver, which is preferable to mica in some respects and much more durable. Both of these articles are presented by Gideon Sibley.

70. *Kerr's Dam-Holder.* A universal double-bow dam-holder possessing quite a range of adjustability and some features of merit.

71. *Twist Engine Drills.* A set of root-canal drills of assorted sizes for the engine, with well-tempered twist ends. No matter how well made, your committee cannot recommend the use of engine drills for enlarging canals, nor see any necessity for them in view

of the attending dangers. The largest size may be useful, however, in removing root-fillings and preparing canals for the reception of dowel crowns.

72. *Right Angle Broaches.* A set of short twist hand broaches of assorted sizes. These have large milled heads which make them useful in posterior teeth. These three articles are presented by the American Dental Specialty Co., Detroit.

Your attention is also called to the new designs in portable electric engines for the direct and alternating currents, recently constructed by the S. S. White Dental Mfg. Co. A. New mechanical speed-regulating engine (foot-engine style) for alternating currents of any voltage and frequency, a perfectly well controlled outfit, having all the features of the best electrical outfits for direct current and giving a range of speed from 600 to 3500 revolutions per minute. B. The same outfit for direct current made for all the ordinary voltages with a speed range from 400 to 4000 r. p. m. C. The new No. 4 Treadle Rheostat Outfit, an entirely remodeled and improved form of the old treadle rheostat engine, one of the most efficient electrical outfits ever put on the market.

Also to the Celluloid Filling Material introduced by Dr. Palmer of Chicago. This is a new application of an old subject. By means of a cement composed of ground celluloid and a solvent, inlays of solid celluloid are inserted in cavities in the anterior teeth and colored to a close imitation of the tooth substance; or the plastic cement may be first inserted, and by then incorporating as much of the dry material as possible a filling may be made much in the same manner as amalgam. It is also claimed to be a perfect material for mounting crowns, as it is impervious to moisture and of great adherent qualities. Its permanency as a filling material only time can prove. Several are experimenting with it and a report next year from them will be of great importance, as by reason of the variety of colors and the absence of any line at the point of contact, it is almost impossible to detect a filling of this material in the mouth. Should it prove to withstand the action of the oral secretions, the artistic results that may be obtained by this preparation will be most excellent.

In conclusion, your committee desires to call attention to a new oxyphosphate of zinc cement recently perfected by Dr. J. N. Crouse, which it is claimed will neither shrink nor expand, is non-irritating

and insoluble; and to an improved oxychlorid cement, and a scheme for combining precipitated metals for amalgams, introduced recently by Dr. W. V-B. Ames. Also, to acknowledge a sense of deep appreciation of the courtesies extended by the S. S. White Co. in furnishing the trays and mounting the entire exhibit in this most excellent manner; and to extend thanks to the supply houses and others for their courteous response and valuable contributions.

Discussion. *Dr. G. D. Sitherwood*, Bloomington: This is the best report of its kind that has ever been presented to this society, and I wish to express the commendation which I hear all over the room.

Dr. J. N. Crouse, Chicago: I commend the idea of using a stool, for if all operators would get off their feet even an hour or two a day they could stand the work much better. I have used one for twenty-five years, yet many men do not even have such a thing in their office. Not only is it a great rest to use a stool, but often you can operate better than when standing.

Dr. G. B. McKinney, Barry: I need considerable rest, and in trying to secure same the idea of this stool struck me, which is how I came to perfect it. A stool is considerably like a set of false teeth—awkward at first, but a great help when one becomes used to it.

Dr. B. J. Cigrand, Chicago: Dr. Goslee is filling his position admirably and this is a splendid report. Many have not seen these inventions and probably will not do so; would it therefore not be a good plan to have photographs made of the specimens and incorporate them in the printed proceedings, as this would be a greater help in remembering the various devices than the descriptions?

Dr. Edmund Noyes, Chicago: Probably all the valuable appliances will be illustrated in the advertising pages of the dental journals, which will answer every purpose.

Dr. Hart J. Goslee, Chicago: Dr. Noyes is quite correct. It would be folly to have all these appliances photographed. Half of them are not worth it, and many others could not be properly illustrated so as to show up their good points. The best ones will be advertised in the journals. As suggested by Dr. Crouse last year, I have criticised and commented upon some articles, as I believe this is the proper function of this committee. Some things sent to the committee were not presented to the Society, only those which possessed special value or interest.

TRIALS AND TRIBULATIONS OF THE BEGINNER.

By W. C. PFINGST, D.D.S., LOUISVILLE, KY. READ BEFORE FALLS CITIES' DENTAL CLUB, 1900.

I know that younger men will coincide with me when I say the beginner's path is a rugged one and not strewn with roses, and that the older men will be carried back to the time when they made their initial bow to the public in a professional way. When I first thought of studying dentistry I looked upon the profession more as a pastime and the means of keeping my pocket filled with money, without seeing the drudgery with its responsibilities and cares which I have since found it to be filled. I neither knew nor inquired of any of the difficulties and hard study of college life, but thought that the attendance at a few lectures was all that was required. The first set-back to my enthusiasm was received when upon entering college I was put to work in the laboratory soldering a brass plate. It took repeated trials and disasters of every description to complete this first task, and resulted in the loss of much of my good opinion of the easy things in dentistry. However, I gradually regained my self-composure as the difficulties of the laboratory were successively encountered.

The most difficult obstacle on the road to my degree was now apparently overcome, but alas! I was again doomed to disappointment, for the hardships in the laboratory were nothing compared to what awaited me in the infirmary. Here the familiar expression, "Doctor, your filling has dropped out," struck terror to my heart, until I became hardened and indifferent to my surroundings as one difficulty after another began to heap itself upon me.

After three years of training and running the gauntlet in the green-room I finally emerged from school a full-fledged dentist; my old-time assurance returned and I thought that I had now surely surmounted all obstacles and would at once settle down to a lucrative practice. I began wondering what I would do with all the money I should make the first year in business, whom I could get as an assistant the second year, and how beautiful should be my office. My troubles again came prominently to the front when I looked around for a suitable location, for strange to say, with the large area offered by this city, the more I looked the more dissatisfied I became. Like all my former troubles this was finally overcome and my location settled upon; but I found that instead of looking

around for an investment of my first year's earnings I had settled down to a dignified starvation. The code of ethics prevented me from advertising myself; my personal friends were the only ones who seemed to know I was in existence, and they walked on the opposite side of the street when chance brought them near my office. After a time, strange to say, a few victims found their way into my charge and I began to take heart; but it was not to last long, for with a practice came also other responsibilities, and I soon began to realize that mistakes were more easy to make than I had supposed.

When an older practitioner makes a mistake, although that slip might be worse than if made by a young man with no reputation, his patients do not judge him so severely, for they think he knows better and that it was only an accident. On the other hand, the patient will accuse the beginner of inexperience and ignorance at the least provocation. Young men are apt to err in judgment due to lack of experience, a difficulty the older practitioner has long passed by. Patients will expect beginners to do more difficult things than older men in the profession, and will come to a young man possibly after some other dentist has refused to do their work in a way to suit their own fancy, and then blame the young man if he risks the operation and fails. In plate-work they will come after meeting with several failures and expect the young man to make a "howling success." Aside from all financial difficulties, it seems to be the fate of the man who is beginning in life, eager to make a reputation, to stumble up against work of a nature not likely to further his cause. Finally, I must say that the young man who enters the profession of dentistry with the idea that it is easy, or that he can make plenty of money without expending much time and effort, is going to be sadly disappointed.

ACTOL, or silver lactate, was introduced by Crede and has been employed successfully in treating abscesses at the roots of teeth, a freshly prepared solution (1:500) being injected into the abscess through the orifice of the fistula.

IRREDUCIBLE LUXATIONS OF THE LOWER JAW. Kramer.—(*Centralblatt F. Chirurgie.*) Instead of resection in cases of severe and irreducible dislocation of the lower jaw, severing the stretched muscles will sometimes bring the jaw into place without further trouble. In a case described, after dividing the masseter and external pterygoid muscles and the external lateral ligament, the luxation was corrected without trouble.

Digests.

LOST CANAL CONTINUITY. By Otto E. Inglis, D.D.S., Philadelphia. It has fallen to my lot to be called upon to save if possible teeth which are badly decayed at the cervical third of the root. In such cases the cavity margin is beneath the gum line and placement of the rubber-dam is impossible. When in addition to this decay has penetrated the pulp-chamber or canal the case may become exceedingly difficult to manage. It may happen that the entrance of the pulp-canal by caries will have produced a condition in which it becomes practically impossible to aseptically treat the canal involved either through the cavity of decay or by way of a special entrance upon the occlusal surface. Perhaps the relation of the treatment employed in a special case will more clearly illustrate the idea intended to be conveyed. The case was a large, deep cavity upon the disto-cervical portion of an upper left second molar. The lingual canal was included in the cavity, and when the latter was cleansed the canal was obliterated one quarter of an inch. This of course caused a loss of canal continuity, and the oozing from the gum margin would have prevented any comfortable treatment of the canal even had the cavity of decay been extended to the occlusal surface, so instead an opening was made upon the occlusal surface, exposing all the root-canals as usual. A soft canal probe was now passed through the opening, through the cavity and into the canal beyond. The cavity was then filled with amalgam which was trimmed up to conform to the contour of the teeth. The canal probe was then carefully withdrawn, thus leaving an artificial canal, formed partly by tooth substance and partly by amalgam. A pellet of cotton saturated with 10 per cent formaldehyd was sealed in the bulb of pulp-cavity. After twenty-four hours the case was proceeded with as in any case of moist gangrene and with absolutely no difficulty whatever.

The title of this paper permits the writer to include certain features of canal treatment which are more or less annoying. It is not uncommon to enter a canal with a drill or reamer for the purpose of enlarging an opening made with a cleanser, or smooth broach and acid. A slight deviation from the axis of the canal and a *cul-de-sac* is formed into which the broach passes. The canal is

lost and is recovered only by the use of a broach or cleanser, carefully bent so as to engage the root-canal and not the *cul-de-sac*. Sometimes this is impossible of accomplishment. If the latter be continued to a perforation practically the same condition exists complicated by hemorrhage. The chips from a drill will occasionally so block a canal as to lead to the suspicion of a curved root even when its length has been predetermined with a small broach. A small portion of temporary stopping or amalgam has occasionally obstructed the lumen of the canal. It is necessary to drill through or scrape out these obstructions. Cotton imparts a peculiar feel to the broach as does a portion of pulp, though this latter more often permits the ready passage and removal of the broach without pulp removal. Broken broaches, drills, and root-fillings all give characteristic tactile impressions.—*Stomatologist*, May, 1901.

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INTRAUTERINE PERIODS OF STRESS, AS AFFECTING THE TEETH. Extract from a paper by Dr. J. G. Kiernan, Chicago. While the fetus may pass through all periods of stress, a seeming replica of its immediate ancestors, still since nutriment assimilable by a given organism is limited, a check of development at certain stages often turns the nutriment in the direction of organs or cells or functions which should disappear at that particular stage. Man passes through the polyphyodont potentiality before reaching the diphyodont, which is the dental characteristic of the race. Arrest of development at the period when polyphyodont potentialities are present implies the dentition found in the Sauropsidæ, where teeth continually disappear to be continually replaced. Through such arrest a child may develop successively several hundred teeth. Since teeth are among the most valuable structures in evolution, upon them is peculiarly evident the effects of stress. The struggle between the diphyodont and polyphyodont condition in human embryogeny may result in jaw atrophy and tooth increase in size. On the other hand, tooth decrease in size and jaw hypertrophy may occur. In the first case, decided irregularity of the teeth occurs in a comparatively normal subject. In the second case, seeming absence of irregularity will occur in a hereditarily defective subject. Jaw decrease as well as arrest of the face has been determined by general surrender of the system to brain growth. The development of the face in vertebrates is checked in man, because

the upright position renders it unnecessary to bend the head as in quadrupeds, and because the enormous cerebral development has rendered necessary brain cavity enlargement by extending the cavity over the nose region, in addition to enlarging the skull. Normal vertebrate development of the face is therefore arrested in man at an embryonic stage. The long jaw, an advance in face development, does not occur in man. The skull is a development partly of the vertebræ and partly of dermal bones. The dermal bones are the frontal, the parietals, the nasal bones, the pterygoids, palatines, maxillaries, premaxillaries and mandibles. The fontanelles in the child are spots in which dermal bones are yet to be formed. Development of the brain depends upon the growing power of the secondary skull formed by the dermal bones. These considered as bones are degenerate remains of the outer skeleton of the head which in early fish and reptiles emulated the lobster. Because of their very degeneracy they have been utilized to aid in covering the brain.

Dr. Eugene S. Talbot stated that perhaps no structures in the body are so much affected by the law of economy of growth as the face, jaws and teeth. Under this law is exerted a natural force causing brain development and resultant jaw recession. The jaws are not now required for the purpose they were originally, hence an arrest of development is taking place. Originally the jaws measured $2\frac{3}{4}$ inches across; now the average one measures only about two inches. On some adult patients the jaws measure only three-quarters of an inch. The senile stage occurs at about $4\frac{1}{2}$ months of fetal life, a period in which the teeth are more readily affected than any other structures of the body. If change occurs about the fourth month of fetal life the teeth are liable to alter in shape and structure. Teeth without enamel are frequently found; sometimes slight amounts of enamel may be found on some teeth. Occasionally children are born who have no teeth throughout life. These changes are the effect of the swaying between the diphyodont normal state and the polyphyodont state of reptiles at a period of stress. Absorption of the alveolar process is an expression of polyphyodont physiology. Were a man to live long enough, he would lose his second set of teeth by osteomalacia or senile absorption. Senile absorption may occur at any period in the life of the individual. It is more frequently noted in degenerates, neurotics, deaf-mutes, con-

genitally blind and idiots. To this senile condition is due the transitory nature of the alveolar process. Decay of the teeth is a natural process.—*Jour. Am. Med. Assn.*, May, 1901.

* * *

DEVELOPMENT OF THE MAXILLARY SINUS. By Emma E. Musson, M.D., Philadelphia. Read before the Academy of Stomatology, Jan. 22, 1901. Ancient historical literature relating to theories advanced on the anatomy and function of the pneumatic sinuses cannot fail to be interesting to those working in these regions, though curiously enough the anatomists of ancient times seem to have been better acquainted with the frontal and sphenoidal sinuses than with the more conspicuous and easily accessible antral cavities.

Some of the earlier anatomists of the sixteenth and seventeenth centuries proved to their satisfaction that the cavities of the frontal and sphenoidal bones were lined with a green membrane; later the statement was applied to the antrum, and in addition it was announced that these sinuses were filled with a medullary substance; another theorist advanced the idea that the function of this so-called medullary substance was to supply nutrition to the surrounding bones and to the teeth of the superior maxilla. Later authors combated the theory of the sinuses being filled with a medullary substance and contended that they were filled sometimes with mucus and sometimes with air, and a few were inclined to think that these spaces were an outlet for the fluids of the brain. Among a few authors who at this time advanced the theory that the sinuses were filled with air, or in other words were empty, was N. Highmore, after whom the antrum of the superior maxilla is named, who in 1681 combated the older theories. In spite of this the anatomists still did not accept the theory of the sinuses as air-spaces, and Vieussens adhered to the old theory that they contained mucus, and that the function of these sinuses was to disembarass the blood of mucus on its upward course to the brain. Anatomists now explain the green membrane by post-mortem changes and the presence of mucus, and a medullary substance by an ante-mortem catarrhal or purulent accumulation in the sinuses.

The theories as to the physiology of the air sinuses are equally interesting; probably the most ingenious was the one that they generated air and expurgated the animal spirits. In 1776 they

were considered as necessary to phonation, later still to olfaction, the antrum excepted; though Vesalius had before 1766 seen in these cavities a formation of bony structure that combined lightness and volume, the theory of the present day.

According to Durcy, the first outlines of the maxillary sinus are represented by a lateral invagination (depression outward) of the nasal mucous membrane, corresponding to an excavation in the rather thick wall of the cartilaginous capsule of the nose. Later this cartilaginous capsule becomes surrounded by bony tissue and, disappearing, the mucous membrane of the sinus is lodged in a bony diverticulum. At four and five months we have the antrum



FIG. 1.

S, ethmoidal mass; P, unciform process; m, inferior turbinate.



FIG. 2.

S, ethmoidal mass; B, bulba ethmoidalis; P, unciform process; m, inferior turbinate.

developed as in Figs. 1 and 2. In the new-born the maxillary sinus is a small depression posterior to the lachrymal duct at the level of the second molar (Fig. 3); in the second year the amount of space between the infraorbital canal and the temporary cuspid is ten millimetres. At eight and nine years of age it has extended up into the zygomatic apophysis, and in its transverse diameter has taken definite shape. With the descent and eruption of the permanent teeth the depth and height of sinus is increased. The dimensions are therefore never fixed until after the end of the second dentition.

Macrosmatique mammals, those with the sense of smell highly developed, as dogs, have open maxillary sinuses as seen in the Plate, and form simply a notch which is large posteriorly at the

expense of the palatine bone. The orang-outang has one large single cavity formed by the maxillary sinus and ethmoidal cells, this communicating by a large, free opening with the sphenoidal sinus, as seen in the Plate.

There is the greatest variety in the size and shape of the antrum; the process of resorption of the bony tissue may go on to its full extent, leaving a large sinus with thin walls, or the process becomes inhibited with the result of a small sinus with thick, bony walls; or, again, the development of the walls of the antrum is defective. There, however, always seems to be a more or less constant relation between the development of the nasal chambers and that of the

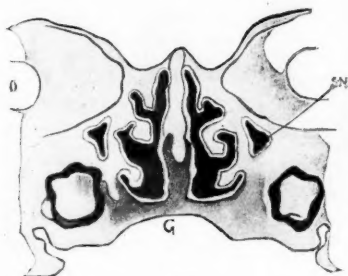


FIG. 3.
S M, maxillary antrum.

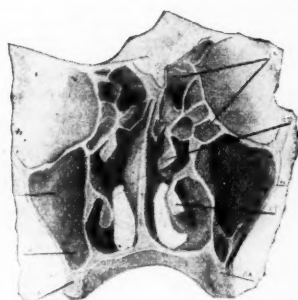


FIG. 4.
S M, maxillary sinus; S A, alveolar sinus;
P A, alveolar process.

antral cavities—a wide nasal cavity, a narrow antrum, and *vice versa*. Zuckerkandl's table of normal measurements is as follows: Frontal dimensions of air-spaces in the superior maxillary, sixty-eight millimetres; width of the nasal fossa, thirty-one millimetres; height of antrum, twenty-six millimetres. In a case of atrophy of the antrum: dimension of air-space, sixty-nine millimetres; width of nasal fossa, forty-eight millimetres; height of right antrum, twenty-two millimetres; height of left antrum, eighteen millimetres; a difference of seventeen millimetres in increase of width of the nasal fossa and a corresponding diminution in that of the antral cavity. In taking height of antrum its nasal wall is considered as the base, the apex being a line running from the zygomatic process to the tuberosity of the superior maxilla.

In the specimen I have here this evening the resorptive process has been complete, leaving thin walls for all its boundaries. There

is a prolongation of the sinus up into the infraorbital region, producing an infraorbital fossa and causing a strongly projecting infra-orbital canal; a second and third prolongation extending into the zygomatic and frontal processes of the malar bone; a fourth the result of the almost complete resorption of the alveolar process, the dental alveoli of the first and second molars forming part of the floor of the cavity, the floor being some millimetres below that of nasal cavity, also seen in Fig. 4. A fifth prolongation is the extension of the fossa between the plates of the palatal portion of the superior maxilla, almost as far as the spinous process, that is, the middle line, also seen in Fig. 5. Thus the upper wall of the sinus

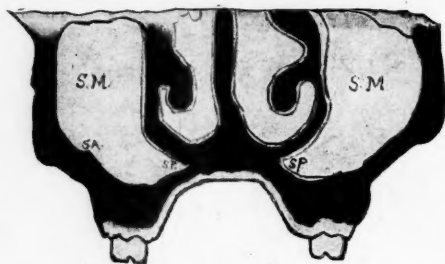


FIG. 5.

S M, maxillary sinus; S A, alveolar sinus; S P, palatine sinus.

to a large extent forms the floor of the nose. The width of the nasal fossa measures twenty millimetres, the height of the antrum forty-three millimetres, and the depth forty millimetres. Zuckerkandl gives forty-six millimetres as the greatest width of antrum found in his dissections. Such an antrum is to be diagnosed in life in several ways: the narrowness of the nasal chamber or lack of bulging outward of external nasal wall; the lack of depression of the facial wall of the antrum; the bulging outward of the antrum posterior to the zygomatic process; and by the transillumination test, the brilliant illumination of the infraorbital fossæ and the pupils. Surgically such an antrum could be easily opened at any point the operator might choose to elect, even from the roof of the mouth; also in the radical operation in the cuspid fossa the surgeon would run no risk of wounding the infraorbital nerve, so great is the height of the sinus from alveolus to the infraorbital canal.

Incomplete resorption, or arrested development, and approxima-

tion of the maxillary walls are the chief causes of stenosis of the antrum. To these may be added depression of the cuspid fossa, thickening of the walls of the antrum, and bulging of the external nasal wall into the antrum. When there is incomplete resorption of bone we have, taking the place of the normal fossa, a finely cancellated bone-tissue; this lack of absorption is mainly confined to the alveolar process, in consequence of which the floor of the antrum will be some six to nine millimetres above the floor of the nose, and thus between the roots of the molars and the floor of the antrum there is a thick layer of bone which renders drilling into the antrum a painful, tedious process; for the same reason, drilling through the inferior meatus would be difficult if not impossible. In such cases the cuspid fossa would be indicated as the point of entrance.

In approximation of the maxillary walls, examination would demonstrate the depressed facial wall and a bulging outward of the external nasal wall. Depression outward of the nasal wall is almost always at the expense of the antrum, and may take place either at its lower or its upper portion, depending whether the depression is found in the inferior or middle meatus. This conformation is very readily diagnosed by a nasal examination, which reveals a deeply concave inferior or middle meatus; the latter condition is very well shown in these specimens. The surgical importance of this variety of stenosis would not be the difficulty of penetrating into the antrum, but the danger of going through both walls and into the nasal cavity.

A condition of antrum impossible to foresee is that of its division into two sections by a partition wall. In the plate presented the sections are separated by a vertical division wall, and the sinuses thus formed communicate separately with the middle meatus. (Fig. 4.)

Only in the neighborhood of the maxillary ostium does the mucous membrane resemble the pituitary membrane of the nose; in its greatest extent it is pale and thin, and easily separates into two layers. The superficial layer, the so-called mucous membrane proper, is ciliated and contains but few glands; the deep layer is adherent to the bone beneath and takes the place of the periosteum. The interval between these layers is occupied by a very loose cellular tissue which contains a large number of glands; this latter becomes markedly swollen and infiltrated in the course of an inflam-

matory process in the antrum, and the whole mucous membrane, thin and pale as it is, will in the course of a short period become transformed into a thick, fungous tissue, with a tendency to the formation of polypoid growths.

On the anterior and lateral walls of the antrum will be found numerous canals containing the dental nerves and their accompanying blood-vessels; their walls are at many points imperfect, and thus the nerves lie in direct contact with the lining mucous membrane of the antrum and will be subject to all the inflammatory conditions of this membrane, giving rise to the severe attacks of pain present in acute antral sinusitis.

Discussion. *Dr. M. H. Cryer*: One of Dr. Musson's illustrations shows the division of the maxillary sinus vertically. In cutting perhaps six hundred skulls I have failed to find an antrum that was completely divided by either bony or membranous septa. A bony or membranous septum may be found, but there is always a communication through it. Dr. Musson spoke of the sinus having two openings, one from each division. I have found cases where the posterior one opened into the superior meatus, and in those cases took it for granted that the posterior division belonged to the orbital process of the palate bone, there being a cell in that process. Several skulls were found where this cell had been enlarged, extending downward and backward and curving around the maxillary sinus, and I thought this was a true division of sinus, but on looking for outlet found it to open into superior meatus. Therefore this is not a division of the maxillary sinus, but an enlarged cell of the orbital process of the palate bone. I still hope to find a true division of the maxillary sinus.—*International, April, 1901.*

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UNILATERAL JUMPING THE BITE. By Eugene S. Talbot, M.D., D.D.S., Chicago. A woman, 32 years old, came to Chicago from a western state to obtain relief from constant pain and fatigue. She was a degenerate; had been married nine years and had one child. She had been losing flesh for a number of years, and had rheumatism in her limbs. There was constant pain in the occipital region and in the right glenoid fossa. The appetite was poor, assimilation defective, and she was badly nourished. She had considerable neuralgia. Her family physician and dentist being unable to relieve her, she was sent to a Chicago neurologist, who

found the pain most intense on the right side of the face and neck. She was then referred to me.

The lower jaw was arrested. The lower incisors met in a line drawn across the first bicuspid. The superior incisors and jaw extended half an inch beyond the inferior. When the mouth was closed the upper lip rested upon the superior alveolar process, while the lower curled underneath, continually exposing the superior incisors. The face described nearly a straight line from the neck to the tip of nose. Ten years ago she had the lower right and left first molars, upper right cuspid, first and second bicuspid, and left first molar extracted. The result was that the teeth immediately changed positions. When I saw her they had so moved about that the posterior edge of the left upper and lower second molar, the left lower cuspid, and the left upper first bicuspid just touched. Upon the right side the second lower bicuspid, upper first molar, and two second molars touched. The spaces between these teeth rendered mastication impossible. The lower jaw did not rest easily. The palatine cusp on the right superior second molar and the posterior lingual cusp in the inferior second molar were degenerate teeth and exceedingly prominent, so that when the jaw opened and closed the two cusps acted as an inclined plane, throwing the right condyle out of the socket one-fourth of an inch. This dislocation extended over a period of nine years. This was the cause of the pain, tired and exhausted feeling. Improper mastication of food caused the malassimilation. She could not masticate meat, hence she did not eat it.

The effect of forward movement of the lower jaw, or "jumping the bite" (as Kingsley terms it), is to draw the condyle forward out of the socket. This places the capsular and stylo-maxillary ligaments on a continual stretch. The condyle rests upon an inclined plane, the eminentia articular and tubercle. An effort to hold the jaw in this position can be accomplished only when the person is conscious, since the movement is voluntary. During sleep the jaws naturally return to a restful position. In the case of the patient under discussion, owing to loss of teeth there was only one position in which the jaws could meet. The prominent cusps of the superior and inferior molars passed each other, throwing the condyle out of its socket and firmly locking the jaws. The continual stretching of the ligament caused not only pain, but weariness and

exhaustion. The cusps were ground away, the four anterior teeth removed. A gold crown was placed upon the lower molar to fill the space and bring the teeth on a line. A plate was fitted to the upper jaw and proper articulation secured throughout the entire dental arch. The condyle remained in its proper position. She could chew steak with a relish before she left Chicago. She experienced an uncomfortable feeling at the joint owing to abnormal condition of ligaments. The pain, however, ceased. Her face (which had a careworn look) brightened. She continued to improve in health after her return home.—*International, May, 1901.*

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OBSCURE CASE OF DENTAL TROUBLE DIAGNOSED BY X-RAYS. By C. Schelling, London. A young married lady was advised by her doctor to consult me as to whether an occasional swelling of the right cheek, accompanied by considerable pain, and a persistent redness over the cuspid fossa, was due to a dental lesion. The condition was of two or more years' standing. On external examination nothing was noted beyond very slight tenderness to pressure by the finger. On examining the mouth the affected side was seen to be occupied by a central incisor with a small gold filling in it, then smooth, pale, healthy-looking gum whence the laterals and cuspids had been removed, then bicuspid and molars in good order. All the teeth were examined for responsiveness to heat and cold, and appeared to possess live and healthy pulps. I inquired particularly into the extraction of the two missing teeth, and my patient distinctly remembered the removal of each under nitrous oxid, and assured me that neither had been fractured, and that she had been shown the cuspid by the dentist who took it out, and had noticed and commented on its great length. There was no history of any antral trouble. On again examining the gum I found nothing to show the presence of any root, but on the inner surface of the lip saw a head of whitish fluid, and on pressing a very small probe into it found that it was at the orifice of a sinus which ran upwards. I plugged the sinus with a little carbolized bibulous paper wound round a nerve bristle, and on the next visit slit it up so that I could enter the sinus from the top of the sulcus between the gum and lip. This was on Sept. 10, 1899, and from then until Dec. 10 I saw the patient eighteen times, gradually dilating the sinus with tightly-rolled bibulous paper. I then appeared to have reached the

end of the sinus, and could make out nothing in the way of root or dead bone. My partner could find nothing, and as since the first day the only pain had been from a nerve branch near the end of the sinus, which was in no way dulled by cocain crystals and so prevented much exploring, the hole was allowed to heal and all was well until April 30, 1900, when the patient came again with the nerve pain as before. This time I took a surgeon's opinion, and he saw nothing but to reflect the lip and make an exploratory incision, which the patient objected to. I again suggested it might be a root, so the patient consulted Dr. Davidson, I furnishing her with an upper impression tray to hold the film in place, and suggesting that a probe be left in the sinus when a skiagram was taken. Dr. Davidson found a bit of tin foil stayed in better. With the knowledge that there was after all a root in the jaw, it was easy, the patient being under gas, to make a cut across the ridge of gum; in doing so I felt the edge of root with my bistoury's point, and removed it. In future I shall, instead of taking so much trouble in dressing a sinus, certainly make use of the rays at an early stage of the proceeding. It will be noticed that I had all along been dressing the abscess, and being on the higher side of the root had failed to feel it with my probes.

Discussion.—Mr. W. Hern said he had a case somewhat similar. A nurse had a hard swelling in the right maxillary alveolar region, with a history of attacks of inflammation and a discharge of pus from a sinus through the alveolus. Three teeth were absent, the first molar, second bicuspid, and first bicuspid. There was no sinus when he first saw the case, but he noticed that the alveolus was a little more rounded than might be expected. A little later the patient came back with a sinus, and on probing this he touched something which was more like bone than tooth, and was situated high up on the outside of the alveolus, in close contiguity to the antral wall. It occurred to him that it might be a case of antral trouble, and not being able to decide whether it was tooth or bone, he reflected the mucous membrane under gas and oxygen. The bleeding was somewhat profuse and prevented further examination, so the wound was plugged with gauze. On exploring the opening a few hours later he found the bone exposed perfectly normal in color. On scraping away at a prominent part of the alveolus he came upon a root, which was extracted. He thought it was fortu-

nate that the root was discovered at this stage, as the next step would have been the exploration of the antrum. The use of the X-rays might perhaps have shown the root and so avoided any idea of the more serious operation.

Mr. J. H. Badcock mentioned the case of a patient presenting herself for treatment with a sinus for which there was no apparent cause. He discovered that the first left upper bicuspid was dead, and on opening into it pus escaped. The tooth was dressed with the idea that possibly it might be the cause of the sinus; but the latter did not heal and was eventually packed. There was then found a hard substance at the end which was thought to be the lateral root. While holding a steel probe in the sinus in contact with the substance a skiagram was taken which showed very clearly that the probe was touching the lateral root very near its apex, and at the same time it showed the root of the first bicuspid with the two canals, and a tract rather less in density than the rest of the bone extending as a sort of halo round the end of the first bicuspid and leading down to the lateral, joining up with the sinus. That seemed to him fairly conclusive evidence that the bicuspid was the cause of the sinus.—*Dental Record, March, 1901.*

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FLASKING. By Rupert G. Beale, D.D.S., Philadelphia. The importance of close attention to detail in the constructive work of prosthetic dentistry cannot be too strongly commented upon, and many difficulties arise worthy of consideration. When packing rubber cases the trouble occasioned by discoloration of the joints, dislodgement of single teeth, fracture and crushing of the cast or investment, undesirable mixing of the red with the pink rubber, imperfect closure of the sections of the flask, thus impairing the occlusion, all caused by the imperfect outflow of excess rubber while attempting the closure of the flask, can be avoided in great measure by carefully applying the following practical suggestions.

When flasking full or partial cases the plaster in lower section of flask should come just to the margin of wax where it joins the cast, thus allowing the packing of rubber to be done entirely in upper section of flask. The above method of flasking is not altogether essential in partial cases unless the red rubber is to be faced with pink, in which case the line of separation of the sections of the flask should always be at the line where the wax joins the cast.

If the plaster in the lower section is allowed to remain above the line of wax, the line of separation of the sections will necessarily be at that point, consequently a portion of the pink and red rubber will pass out together into the excess space, leaving the pink rubber streaked with a line of red, thus impairing the continuity of the pink facing.

An excellent way to avoid these difficulties, and to secure the uniform flow of excess rubber when attempting to close the sections of the flask, is as follows: Instead of cutting radiating grooves about one-quarter of an inch apart, connecting with a groove midway between the cast and margin of flask, as is the usual practice, cut a groove around the cast between it and the margin of flask, then connect the groove with cast by slightly bevelling plaster between groove and cast with a sharp chisel or knife. The corresponding surface of upper section of flask should also be bevelled, but it is not necessary to cut the groove. In bevelling only a thin layer of plaster should be removed at groove, and the depth of outlet should be gradually increased as it nears the cast, at which point it should be one thirty-second of an inch in depth. By this means a horizontal V-shaped opening one-sixteenth of an inch in depth at the cast will exist between sections of flask when closed.

The groove and V-shaped opening at the posterior or palatal portion of the cast should be twice the size of that around the sides and front; this provides a sufficient outlet for the greater amount of excess rubber usually found at this point. As a result of this liberal passageway ample space will be allowed for the uniform outflow of excess rubber between the sections of the flask when pressure is brought upon it in closing, thereby relieving the teeth, cast and investment of the undue strain placed upon them, when the rubber is made to adapt itself to insufficient outlets or small grooves.

Where small radiating grooves for the escape of the excess rubber are used the investment is necessarily weakened and becomes more liable to fracture, thus affording an opportunity for small particles of plaster to mix with the unvulcanized rubber, while with the V-shaped outlets the danger is minimized. Sectional block teeth ground thin will also escape fracture if the flask is prepared after this method and the usual precautions in closing are taken. Another advantage is that after the rubber is vulcanized, the case cold and

removed from flask, the excess rubber can easily be removed by trimming off with a pair of sharp shears.

Flasking at times becomes quite difficult with partial cases where there are a few remaining teeth retained as stays for the plate or used for clasping. Occasionally these teeth, when long and frail, fracture in opening flask to remove wax, an accident which complicates the packing process; so, too, in closing the flask. In packing the rubber also these long frail teeth frequently fracture and become dislodged or crushed, thus mixing small particles of plaster with the soft rubber and ruining the vulcanized plate.

To overcome these difficulties the individual plaster teeth must first be oiled or thoroughly soaped, so that the wax plate will not adhere to them; the wax base-plate must be made to fit the plaster teeth perfectly. See that wax plate is made fast to cast, then prepare cast for flasking and remove the pins from plaster teeth, if pins have been used to support them. Then with a sharp chisel carefully fracture the plaster teeth close to cast and cut them gradually away from wax plate as far down as line of fracture; oil the newly exposed surface of wax plate so that the new plaster will not adhere to it.

If clasps have been placed around a tooth or teeth, the plaster representing tooth or teeth should be cut away in the manner above described, as it is desirable where possible that the rubber should be packed in one section of flask. When flasking, embed cast with wax plate upon it in lower section of flask and allow the plaster to meet wax plate line, but do not allow it to enter the spaces previously occupied by plaster teeth; place separating material over surface of plaster investment and surface of cast where the plaster teeth have been cut away, and pour the upper section; the plaster of upper section will enter and fill the spaces representing plaster teeth, and at the same time form part of the plaster investment.

If the wax base-plate has been made to fit the plaster tooth or teeth, the new plaster will take form of wax and represent the former plaster teeth, while if clasps have been used they become firmly embedded in a strong body of plaster which cannot be dislodged while packing the rubber or while closing sections of flask. By this procedure the clasps, the plaster investment forming the plaster teeth, and the porcelain teeth will all be firmly embedded in the upper section of flask, where all packing of rubber can easily be

done, and if necessary the flask can be reopened and more rubber added without injuring plaster cast. By pursuing the above method of making excess outlets and flasking, one is insured against the possibility of crushing the cast, the discoloration and spreading of the joints of sectional block teeth, the fracture of individual plaster teeth, or the displacements of clasps after packing the rubber and when attempting to close sections of flask.—*Brief, May, 1901.*

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FORCE REQUIRED IN MASTICATION. By Frank M'S. Thomas. [At the recent discussion upon the views of Dr. Black, at the Academy of Stomatology, Philadelphia, there was such a variety of opinion expressed that the matter was referred to an electrical engineer to give a technical explanation of the probable force used in mastication.—EDITOR.] There seems to be some confusion in the use of terms in the discussion of the forces used in mastication. The words *force*, *power* and *work* are frequently used synonymously, and in order to have a more correct understanding it is well to remember that *force* is that which produces or tends to produce a change in the motion of a body or mass; *work* is done when a force produces a displacement of a mass; *power* is the rate of doing work.

Let the elementary mechanics of the operation be considered. It is known that a force which may be applied directly upon the object to be moved (without the intervention of a lever system) produces a stress equal to the force. It is also known that a force producing motion does work, and that work is represented by the product of force (F) and the distance through which it is exerted (S); or $work = F \times S$.

In this country work is usually represented in foot-pounds, or the product of the force in pounds and the distance in feet through which the force is exerted. It is seen that work embodies only force and distance. Power must now be considered. This is the work done in a certain time, in a unit of time. The unit of power is the "horse-power," which is a certain amount of work performed in one minute: $P = \frac{F \times S}{T}$. The horse-power is the power required to raise 33,000 pounds one foot high in one minute. It will be observed that power embodies force, distance and time. It is also known that work has an equivalent in heat. The unit of heat is the amount of heat required to raise the temperature of one pound of

water one degree Fahrenheit. This is the B.T.U., or British thermal unit. Experimentally it has been shown that one B.T.U. is equivalent to 778 foot-pounds of work. It is seen that the heat unit embodies simply a change of temperature of a certain weight or mass of substance. Now, as the horse-power is 33,000 foot-pounds per minute, and as one foot-pound = $\frac{1}{778}$ B.T.U., we have: $H.P. = \frac{33000}{778} = 42.4$ B.T.U's per minute.

Keeping these units in mind, the action of mastication may be applied. Neglecting the lever-like structure of the jaw and the point of insertion of the muscles, we may assume that the total pressure exerted is 100 pounds, to be exerted at one point. We may suppose the force to be 100 pounds. Now assuming that the jaws considered at this point move one inch before the teeth occlude, and no work is performed upon the substance masticated until the occluding teeth are one-quarter of an inch apart, and that the 100 pounds is exerted uniformly over this distance (one-quarter inch), we would have 100 pounds acting through $\frac{1}{4}$ of a foot or 2.08, a little over two foot-pounds of work done by each occlusion of the teeth. This is a small amount of work. Now assume that the teeth occlude 120 times per minute; what power is expended? $\frac{2.08 \times 120}{100} = .00758$ H. P., or less than $\frac{1}{100}$ of a horse-power.

In remarks made in the discussion of Dr. Black's paper it was stated that a boy had cracked 150 nuts in six minutes, requiring 150 pounds to crush, and 150 lemon-drops in six minutes, requiring 65 pounds to crush. It was pointed out that this aggregated many thousands of pounds, which was regarded as a physiological impossibility. No mention was made of the distance through which these forces of 150 and 65 pounds, respectively, were exerted. Thus the aggregate force in twelve minutes, without the distance being stated, is meaningless and misleading. Let this statement be taken and a value assumed for the unstated distance. Assuming, then, that when the nut or lemon-drop is distorted $\frac{1}{8}$ of an inch it gives way and crushes or breaks. The teeth then exert the maximum force through only $\frac{1}{8}$ of an inch. So that the work on each nut is $150 \times \frac{1}{8} \times \frac{1}{12} = 1.5$ foot-pounds, approximated. Now, in six minutes 150 nuts were cracked; therefore, foot-pounds per minute = $\frac{1}{6} \times 1.5 \times 150 = 37.5$. Now for the lemon-drops. $65 \times \frac{1}{8} \times \frac{1}{12} = .67$ of one foot-pound. In six minutes 150 drops were cracked; foot-pounds per minute = $\frac{1}{6} \times .67 \times 150 = 16.7$.

The horse-power required to crack the nuts in this case would be $H.P. = \frac{27 \cdot 5}{1000} = .0011$, or a little over $\frac{1}{1000}$ of a horse-power. For the lemon-drops, $\frac{1 \cdot 5}{1000} = .0005$, or about $\frac{1}{2000}$ of a horse-power. This is a very small power, because while the force is considerable the distance is very small. Of course power is required to raise the jaw to bring it in contact with the nut, but this is too small to be important. As a comparative example, it may be assumed that a man weighing 150 pounds ascends a flight of steps or a ladder ten feet high and does this in ten seconds. The work is 1,500 foot-pounds, or 8,000 foot-pounds per minute. The power $\frac{15000}{1000} = 27$, or a little more than $\frac{1}{4}$ of a horse-power. This is two hundred times the power of the nut-cracking example.

Upon this showing that mastication is a comparatively small portion of the work accomplished by the body, the writer sees nothing improbable in the values given by Dr. Black as to the forces exerted by the muscles of the mouth.—*International, May, 1900.*

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RELATION BETWEEN DENTAL CARIES AND CERVICAL ADENITIS. By C. H. Preston, M.D., B.S. Lond., F.R.C.S., L.D.S. Eng. In considering the question of chronic enlargements of the lymphatic glands of the neck in relation to the teeth, the view taken of the pathology is most important as regards the treatment; and it will be well to recall for a moment the opinion held as to what is called "struma" and its relation to definite infection by tubercular disease. This view is, that an individual may be "strumous" without (as yet) being infected by a definite lodgment of tubercle bacilli in any of his tissues, but that the tissues of a strumous person are in a peculiar condition of depressed vitality which renders them more than ordinarily liable to be attacked by any tubercle bacilli which may be circulating in the blood or lymph.

These organisms may be introduced into the system of anyone; are constantly being introduced into the system of all of us. But unless the individual is of the "strumous" or "predisposed" class, the tissues possess so much resistive power and the white blood corpuscles and other cells possess such strong fighting qualities that the invaders are rapidly eaten up and destroyed and no detrimental change results. But in strumous subjects this power of resistance is lowered; the organisms can lodge in the tissues—they are not destroyed—they live and multiply, and by the irritation of their pres-

ence produce the various changes characteristic of tubercular disease.

These changes are, that around the organisms—probably by the irritation of their presence, "tubercles" are developed—abnormal aggregations of cells which fuse together into larger masses and ultimately, in an accessible region, form a palpable swelling or tumor. These masses of cells, closely packed together and newly developed without any corresponding increase of the blood-vessels for their nourishment, are peculiarly liable to degenerate and break down—especially in their central portions furthest removed from the vascular supply, and so we get abscesses, sinuses, etc.

But in addition to their liability to tubercular infection, the tissues of strumous persons are peculiarly ready to pass into a state of chronic inflammation when subjected to any slight irritation. Such inflammation is at first non-tubercular and is characterized by slow enlargement without much redness, pain or heat. These tissues, when chronically inflamed, have their powers of resistance reduced still lower than when they were not inflamed, and so any tubercle bacilli which may happen to lodge in them at such a time have a specially good chance of escaping destruction by the white corpuscles and tissue cells and of growing and forming a tubercular deposit. Hence the frequency with which an inflamed strumous tissue, at first non-tubercular, afterwards becomes definitely tubercular, and as such a source of more extensive infection.

The lymphatic glands are naturally among the tissues of the body most prone to show this deleterious sequence of changes, because lymphatic vessels, taking origin in the meshes of the other tissues, carry to the glands any substances which may be wandering about in the tissues, and there these become for a time impacted, and leisure is given them to produce their effects. Such substances may at first be the ordinary bacteria of sepsis or their products, and in such case we shall first have a simple inflammatory non-tubercular enlargement of the gland. But the resisting power of the gland tissues having been lowered by this condition, the gland is peculiarly liable to form a nidus for the growth of any tubercle bacilli which may subsequently be brought to it.

If the source of the irritation be cut off while the gland is in the simple inflammatory or pretubercular stage, the gland will almost certainly subside and recover of itself. But if it has already become

the site of tubercular deposit it may spontaneously recover, but is much less likely to do so. Hence the importance of removing any source of irritation early in patients of strumous type. So vital is this consideration, that I know eminent surgeons who say "as soon as a tooth has become a source of glandular irritation, take it out." The possible preservation and usefulness of the tooth weigh nothing with them against the risk that the glandular enlargement to which it has given rise may become tubercular.

Many dentists will say that an effort should be made to treat the tooth by disinfection, etc., so that it may no longer be a focus of septic distribution, and that then the case should be watched to see whether the glands will not subside. There are other considerations which "give one pause" in the application of the drastic method of extraction. A large proportion of the cases in this category are children; and in a public post which I hold I often see patients between three and six years of age with all their teeth in a foul and broken-down condition, accompanied by some enlargement of the glands of the neck. Any or all of the teeth might be the cause of the glandular swelling, and I am invited to clear out the mouth. That means leaving the child without masticating apparatus during several years of its period of growth—when it is most important that processes of nutrition should be well performed. Of course the teeth in these cases are not in an ideal state for masticating purposes, but they at least form two rows of hard opposing bodies along the jaws, and if they are not painful are infinitely better than nothing to eat with. Again, whether it is that the tubercular stage supervenes very rapidly on the stage of simple enlargement I do not know, but I have been disappointed in the results of tooth extraction where the glandular enlargement has been of any extent. I think a similar opinion was given by Mr. Bland Sutton about a year ago.

Before closing I wish to refer to a rather different type of case. Rightly or wrongly the majority of these cases of glandular enlargement are supposed to be due in the first place to some "source of irritation." This is a somewhat vague term, and the books do not say whether a thing which may be a source of irritation to the individual is necessarily a thing which can cause enlargement of a gland. If by "source of irritation" is meant a septic focus from which lymphatic absorption takes place, the action of such an influence is

plain enough; but there are cases in which it would seem that irritable teeth can cause glandular enlargement in a strumous subject without their being foul or septic in any way. It is not conceivable that a tooth with a living, sensitive pulp can be a septic focus; and as there are no lymphatics in the pulp, the channel for absorption is not apparent unless disease has progressed further, at least to the stage of death of the pulp and septic periostitis of the socket; yet the following case is interesting in this connection.

Patient about 30 years of age. One type of strumous aspect. Family history of tubercle, but not markedly so. Eight or nine months ago two lower bicuspid, which were decayed, became acutely sensitive to heat and cold. I excavated them, and after removing all decay found that the cavities, though large and approaching near the pulps, did not expose either, and I filled with amalgam. The teeth were still sensitive to great degrees of cold, but less so than before filling. At the time the filling was done the patient noticed one submaxillary gland slightly enlarged; now, eight months later, she has three enlarged to a rather greater extent. I know that those teeth are perfectly clean, and that both pulps are alive. They cannot be septic foci, yet the glandular enlargement is slowly progressing.

How can a thing which is not a septic focus cause glandular enlargement, tubercular or otherwise? I believe it is a fact that when a sensory nerve is stimulated there occurs a reflex dilatation of the capillaries of the contiguous parts, and if the irritation be constantly repeated, as by the periodical pain arising from a sensitive pulp, a condition of intermittent congestion can thus be set up in the tissues around, the lymphatic glands among others, and this in time may pass into a low type of inflammation, producing enlargement, which will be simple at first, but may become tubercular in a strumous subject. Thus in considering the effect of sources of irritation it may not be sufficient to assure ourselves that no tooth is a focus of septic infection, for a tooth which cannot be septic, but which nevertheless gives pain, appears capable of setting up the above series of morbid changes.

In practice we are hampered by different motives, influencing us to proceed in different ways. Ought I to have extracted the teeth in the case described? I could not conceive at the beginning how they could be the cause of disease starting in the glands, and even

now I can only speculate on the means by which this has come about. Perhaps I should have filled with a substance less conductive of heat than amalgam; but inasmuch as these teeth are clasped by an artificial denture, there was every motive to fill them permanently if possible, and at any rate the sensitiveness is infinitely less than it was before treatment. At present I am temporizing, and if the glands do not subside in a few months I shall probably remove the teeth and them also, though operations have to be approached with caution in private practice, when they involve making scars on the necks of pretty young women. I have treated dentally a number of cases of glandular enlargement, but they have been hospital out-patients who are difficult to keep under observation for any length of time.—*Jour. Brit. Dent. Assn., May, 1901.*

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MANAGEMENT OF THE INFANT MOUTH. By Edward C. Kirk, D.D.S., Philadelphia. Read before the Northeastern Dental Association, Providence, R. I., Oct. 16, 1900. Not a little attention has been given to those prenatal nutritional conditions which we believe influence for good or ill the developing tooth-germs; and it has been suggested, with some basis of reason, that the nutrition of the mother might possibly be controlled through a specially selected food supply to a degree that would influence the structural character of the developing dental organs during the period of prenatal existence. While we have given much consideration to these two stages of tooth evolution, viz., the prenatal stage and the period of functional existence following their eruption, there is a period in the life of the infant to which but little attention is given in so far as it relates to dental development and oral health, and which may indirectly exert a most important bearing upon the future well-being of the dental organs. The period to which I refer is that from the birth of the infant until eruption of the teeth. It is evident at the outset that as the teeth during the period referred to are still within the crypts of the alveolar border of the jaws and not subject to the vicissitudes of an infected environment—as they are, for all practical purposes, not situated within the oral cavity and hence not subjected to the dangers of caries—any influence which may affect their structure must be brought to bear through the general nutritive processes of the infant system, by general rather than by local causes.

At birth the deciduous teeth have calcified only to an imperfect degree, and none of them to the entire extent of the tooth-crown. The process of tooth-formation is still going on, and with relatively increased activity, and any interference with the process at this period is indelibly recorded in faulty structure, of which we find frequent examples in pits, ridges, or depressions in the enamel surface after eruption of the tooth is complete. Syphilitic infection, whooping-cough, the inflammatory diseases of childhood, the exanthemata, and malnutrition frequently leave traces of their disturbing effect upon the general nutrition during this period of infancy in the structural defects already referred to, and which are familiar to all of you. These instances are merely cited as well-known examples of some of the active causes of imperfect dental organs in order to direct your attention to the manner in which faulty tooth-structure is produced by acute disturbances of bodily nutrition during the period of tooth-formation.

There is, however, a much more common source of nutritional disturbance in the infant, which, because of its relatively trivial character, has apparently not been studied with reference to its bearing upon the health status of the infant mouth and teeth—certainly not to the extent that its importance in this regard would seem to warrant. The disturbance to which I refer is commonly called colic, a disorder which is popularly regarded as one of the necessary concomitants of infancy, to be lived through and borne by the victim as one of the experiences of early life from which there is no hope of escape. It must be evident that the fermentative dyspepsia of which colic is the most evident symptom is a fault in the digestive process, which if long continued cannot fail to be the fruitful cause of nutritional disturbances having important bearings upon the health status, and consequently upon the development of the whole organism at this highly sensitive and impressional period of its career. Every one who has had to do with the cultivation of plants or the rearing of animals knows by practical experience that an interference with the nutritional conditions of a growing plant or animal, even for a short period, tends to bring about an arrest of development of the organism, which is profound or prolonged in direct ratio to the magnitude and extent of the interference. The growing organism seldom if ever fully recovers from a shock of that character, and never reaches the same perfection of

growth that is attained by an organism which has not been subjected to an interruption of its nutritional process. Hence upon general principles a fermentative dyspepsia in infancy is not a thing to be regarded as of slight consequence to the health status of the child, but as something to be avoided or promptly treated in order that its inalienable right to the best attainable physical endowment may be secured to it.

Let me, with a view to that end, direct your attention to some of the means which experience has shown to be valuable in this connection, and which seem to me to have a rational basis to recommend them. But first of all we will consider for a moment the factors which commonly bring about these attacks of fermentative dyspepsia in the infant. Careful and somewhat extensive studies of the mouth of the infant at birth tend to show that upon its entrance into the world the oral cavity is germ-free, in which respect it is analogous to freshly-drawn milk or a new-laid egg, each of which has been shown to be sterile of bacteria as it leaves the bodies of the respective organisms wherein it is produced. Inspection of the infant mouth at birth would seem to bear out the results of scientific test, for the appearances presented by the oral mucous membrane are characteristic and striking. The tissues of the oral cavity are free from deposits, the texture of the mucosa is indescribably fine and perfect; there is absolutely no visible evidence of the irritative effect of bacterial influence in the shape of congestions or inflammatory reaction—a page in histological development devoid of pathological impress of any sort. But this organism is now transferred from an environment in which it may be assumed that no extrinsic sources of irritation interfered with its normal development to an environment everywhere filled with bacterial forms, which invade its oral cavity and, in so far as conditions are favorable, set up irritative processes which in greater or less degree, locally or generally, modify the infant nutrition. A contest for the balance of power has begun between this small human life and the irritative factors of its new environment—a contest which is continuous throughout life, and in which an unstable equilibrium is maintained with the balance of power oscillating from time to time between the human organism and the irritative forces of its environment, ending finally in the triumph of the latter. Let us study the steps by which one of the earliest of these bacterial invasions

results in the especial nutritional disturbance under consideration. The germ-free condition of the infant oral cavity is one of short duration. Infection probably takes place at the first inspiration of air, with the first cry announcing the advent of a new human existence. Germs of fermentation and putrefaction find lodgment upon the mucous lining of the oral cavity, and finding conditions of temperature and moisture suitable for their growth, simply await the third factor necessary to their activities, viz., a suitable pabulum as a culture-medium. This is furnished in the natural food supply of the infant. Milk, with its blended carbohydrate and proteid elements, furnishes an ideal pabulum not only for the nourishment and growth of the infant, but for numerous bacterial forms as well, which in utilizing it as food rapidly bring about its decomposition, splitting it up through fermentative and putrefactive processes into simpler organic compounds, many of which are irritating and not a few poisonous.

This cycle of changes is set up in the residuum of milk remaining upon the oral mucosa after the first feeding of the infant. Decomposition of this film begins at once, and a whitish deposit is formed upon the dorsum of the tongue, which is highly infected, and which, if allowed to remain, becomes the connecting link in a chain of circumstances which may ultimately throw out of balance the whole digestive process. Every housewife knows what happens when fresh milk is put into an unwashed pan or vessel which has previously contained sour milk. Infection at once takes place and fermentation of the new milk begins. So much is this observation a matter of common knowledge that the utmost care is of necessity exercised by those who handle milk commercially to sterilize all vessels used in marketing their product so that it may reach the consumer uninfected and not lose its keeping qualities. The same principle is observed generally by those who intelligently apply the results of scientific observation along this line in the artificial feeding of infants. Nurses are now trained to an understanding of the best methods for sterilizing not only the milk itself, but the apparatus used for the artificial feeding of infants; the sole purpose of these precautions being to deliver to the infant stomach a pabulum free from bacteria, which when present in the food supply so alter its composition as to reduce its nutritive value and, what is still more important, set up decomposition processes within the alimen-

tary tract of the infant which are direct causes of irritation and disease to the organism.

The infected condition of the infant mouth already referred to is a factor in the causation of gastro-intestinal irritation which is not so generally taken into account as it should be. While the utmost care is exercised with regard to the sterilization of the feeding apparatus and the food itself, the infected oral cavity is frequently left to take care of itself until manifestations of local irritation direct attention to the need for relief. Why this link in the chain should have received so little attention is difficult to say, yet the failure to eliminate it as one of the causal factors in the production of gastro-intestinal irritation is as fatal to success as it would be to deliver food to the infant stomach from an infected nursing-bottle or a dirty milk-vessel. Sterilized milk passed over an infected mucous membrane with its coating of fermenting and putrefying residue of the previous meal is delivered to the infant stomach in an infected condition, just as it would be if passed through an infected nursing-tube.

There can be but one result: Fermentation of the infected fluid begins in the stomach; putrefaction of the proteid elements may take place; quantities of gas are formed, distending the walls of the stomach and intestines, causing pain and irritation, further increased by the irritating effects of the organic acids which are end-products of this fermentative process. Digestion is interfered with or arrested, the fermenting mass of food becomes a mechanical as well as toxic irritant; diarrhea sets in; the whole nutritional process is interfered with, and development is damaged in proportion to the length and severity of the attack.

The rational remedy for this state of affairs is clear when once we understand the conditions to be therapeutically met. In the first place, removal of the primal cause by thorough oral cleanliness and sterilization in so far as that end may be attainable. This may be practically accomplished by wiping the mucous membrane with a saturated solution of boric acid to which borax has been added in the proportion of ten grains to the ounce, or with a very dilute solution of phénol sodique, one-half dram to the ounce, applied on a cotton swab or with a soft linen handkerchief wrapped around the finger of the nurse. The cleansing of the oral cavity in this manner should be part of the daily infant toilet, or repeated oftener if

occasion should demand it. For the treatment of the existing gastro-intestinal irritation the use of opiates and sedatives is irrational and worse than useless. The indications are to remove the sources of chemical irritation by neutralizing the acidity, and the mechanical irritation of the undigested food-mass by a mild laxative. These ends accomplished, the *vis vitæ* of the infant organism is strong enough to rapidly restore the digestive processes to their normal state. I would direct your attention to the peculiar adaptability of magnesium hydrate to the treatment of the conditions which I have described. It promptly neutralizes the acids of fermentation, forming organic salts of magnesium, which possess mild laxative properties, so that the preparation accomplishes a double purpose by removing both chemically and physiologically the two classes of irritants concerned in the disease process under consideration. It has fallen to my lot to treat a considerable number of cases of gastro-intestinal irritation in infants which have unfaithfully responded to treatment carried out as here indicated.

There is one other fruitful source of infection of the infant food supply, namely, the breast of the mother, in the case of breast-fed infants. In the early stages of lactation the activity of the mammary gland is frequently such as to exceed in productiveness the needs of the newborn infant, a state of affairs which may and often does continue for a considerable period of time. As a result of this lack of harmony between supply and demand, the overcharged mammary gland overflows from time to time and small quantities of milk are discharged upon its surface. This film is at once infected from the clothing or cuticle, and becomes an active source of infection to the infant alimentary tract unless the precaution be taken by the mother to thoroughly cleanse the nipple and breast previous to nursing the infant. The same necessity for sterilizing the feeding apparatus exists whether the process of feeding be artificial or natural.

I have deemed it to be worth while for us intelligently and carefully to consider this question for the reason, first, that I believe it to have a direct bearing upon oral health and consequently upon the question of normal development of the dental organs, both as to structure and position. Second, because of its bearing upon the vital status of the infant at that period of tooth-development and evolution which precedes the eruption of the dental organs, I believe it to be one of the important factors in pathological dentition; and,

finally, as it is a problem distinctly within the limits of our specialty and one upon which we are expected to give intelligent judgment, it is our duty to meet the expectations and needs of our *clientèle* in that department as in all others.—*Cosmos*, May, 1901.

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EDUCATIONAL STATISTICS. The latest report of the United States Commissioner of Education embraces a section on professional schools, in which are presented some interesting and suggestive figures illustrative of their relative growth during recent years. For the year 1898-99 the following data are given:

Class of Schools.	Schools.	Students.	Increase (+) or decrease (—)	Graduating.
Theological.....	163	8,261	— 110	1714
Law.....	96	11,874	+ 259	3140
Medical.....	151	23,778	+ 345	4911
Dental	50	7,354	+ 580	1987
Pharmaceutical.....	51	3,551	— 161	1230
Veterinary	13	316	— 10	100
Nurse training.....	393	10,018	+ 1213	3132

While, as shown by this table, the total number of medical students is more than three times that of dental students, as compared with the totals of preceding scholastic years, the latter have increased in a far greater ratio than the former, the rate of increase being exceeded only by the attendance upon nurse training schools, which, though of comparatively recent origin, show a prodigious growth both in the number of schools and of students.

Even more striking is the following presentation of the relative percentage of increase during the ten years from 1889 to 1899, nurse training schools being omitted as of too recent origin to afford a satisfactory basis for a comparative estimate:

Theology.....	18 per cent.
Pharmacy.....	26 per cent.
Homeopathic medicine.....	55 per cent.
Regular medicine.....	75 per cent.
Law.....	204 per cent.
Dentistry.....	301 per cent.

The following table gives the increase in the number of dental schools, students and graduates between 1875 and 1899, nearly a quarter of a century:

	1875.	1899.
Dental schools.....	14	50
Dental students.....	492	7354
Dental graduates.....	208	1986

As affording a standard for comparison, another table is given showing the increase in the number of medical schools (of all classes), their students and graduates for the same period:

	1875.	1890.
Medical schools.....	80	151
Medical students.....	8580	23,778
Medical graduates.....	2391	4,911

A comparison of these two tables shows that the percentage of increase of dental students is enormously greater than that of medical students. As a matter of fact, for the same period the increase is greater than for any other profession, the actual rates for theology, medicine, pharmacy, law and dentistry, respectively, being as follows:

Theology.....	58 per cent.
Medicine.....	177 per cent.
Pharmacy.....	285 per cent.
Law.....	343 per cent.
Dentistry.....	1468 per cent.

As graphically illustrated in a chart which accompanies the report, the line showing the relative advance of dentistry describes a rocket-like trajectory too nearly zenithward to be indefinitely prolonged on the upward curvature. There is such a thing as the law of gravitation, which in this relation is the law of common sense, and which may be safely trusted to maintain a reasonable equipoise between impelling and restraining forces. While it is true that there still remain universities and medical schools without dental departments, and that this omission some of them, for reasons which they deem sufficient, may feel impelled to supply, still, in view of the above statistics, it is certain that among these reasons neither paucity of dental schools nor the present insufficiency of their output can with plausibility be assigned. It is, however, in the highest degree improbable that the next decade or its immediate successors will witness anything approaching the increase in the number of dental schools and students which has been so remarkable a feature of the closing decades of the century just ended.

With reference to the bearing of these statistics upon the question of supply and demand for dental graduates, it may be observed that the American people are preeminently practical, and if they have been crowding in what may appear to be undue numbers into the dental profession, it is because they have substantial reasons for thinking that for the outlay in time, labor and money requisite to

secure an adequate degree of knowledge and skill in its practice it affords a better promise of a speedy and sure return than other professional or business pursuits. That this view of the relative possibilities of dentistry as a vocation as compared with other callings is justified by the facts must be admitted by any one conversant with existing conditions in professional and business life. The prizes may not be so great, but as a rule they are to be obtained more speedily and surely than in other professional callings or in ordinary business pursuits on the same capitalization of time and money.

The fallacy lies not so much in an overestimate of the possibilities for success in dentistry as in an underestimate of the requirements for success. Dentistry is overcrowded, it is true, but not with those thoroughly qualified for its practice by natural aptitude as well as practical training and single-minded in their devotion to the interests of their patients and of their profession. For such men there always has been and still is not only room in dentistry, but an assured place as an enduring success. Like every other profession or business, dentistry is quantitatively but not qualitatively overcrowded. This, however, is no more true of to-day than of days which have been, or than it will be true of all days which are to come. The order of nature which demands that the fittest shall survive and flourish, necessarily predicates the existence of the unfit who shall fail or perish.

The opinion is sometimes expressed that school authorities should make it their business to dissuade from the further prosecution of their studies those of their students whose professional success they deem problematical, and thus by a selective short-cut save them a mistaken career and take from natural law all excuse or occasion for her prodigally wasteful selective and eliminative methods of weeding out the incompetent and unfit. This ingenious suggestion, while flattering to the teacher in its implied trust in his far-sighted prevision and discriminative judgment of character, is curiously disregarding of the fact that a greater schoolteacher, nature, does not will that men shall so much be saved from mistakes as saved by them.

The cheapness and inefficacy of advice, however good, is proverbial, although this fact by no means justifies the failure to proffer it when occasion offers. Still, with the best intentions in the world,

attempted interference with natural processes of growth through struggle and initial failure must be largely futile. With or without interference of the teacher, selective and eliminative processes begin early in the student life of the neophyte in dentistry? In every freshman class a by no means inconsiderable percentage of its members discover, usually for themselves, their lack of real inclination or adaptability for the work they have undertaken and drop from the rolls. How large is the percentage of those who, discovering their mistake after post-graduate life has begun, abandon dentistry for other pursuits, has never been definitely determined; that it is considerable cannot be doubted.

While from the economic standpoint such a result is unfortunate, the time and labor expended in the study of those branches of general science embraced in the curricula of all reputable dental schools cannot be deemed wholly wasted. The knowledge thus acquired should have a broadening influence upon the student's whole life and character, and in no small degree recompense him for the time spent in the acquisition of technical skill in a calling in whose actual practice he may have failed to achieve success. Even the time thus spent is not often wholly wasted, for it involves a training and strengthening of faculties which may find a better field for their exercise in other pursuits. While such considerations may be viewed as in some measure compensatory for what, in event of failure, must from the commercial standpoint be deemed a bad investment, they but little lessen the sting of defeat and certainly do not make adequate restitution for years of wasted energy. Failure is failure; it may not be fatal; in certain contingencies it may even be fortunate; but from the standpoint of a practical work-a-day world it is in the vast majority of cases justly regarded as a calamity.

That with the increasing output of dental graduates such failures are of increasing frequency is a fact too patent for denial. It is an easy matter to prove by statistical tabulations of the ratio between dentists and the populations of the communities in which they practice that there are enough people to give every dental practitioner a comfortable support. The fallacy is not that there is a lack of people who could and in their own interests should contribute to the income of the dentist, but that there are too few who do thus contribute. Viewed even from the most optimistic standpoint

the supply is in excess, not, indeed, of the present and very urgent need, but of the demand of the community.

The most hopeful feature of the situation is the fact that the demand is unquestionably an increasing one, and that every year develops a more intelligent appreciation of the value of the teeth and a greater realization of the importance of securing skilled dental service for their preservation. The dental graduate of to-day is going to work in a field not, indeed, fully ripe for the harvest, but having the potentiality of abundant harvests if properly tilled. If without influential friends and without much money he would still win, he must hustle. The necessity may not be agreeable, but within proper lines it is salutary; good for the fibre of the man; good for the people he reaches and by the skill of his service convinces them of its value and indispensability.

There are, of course, many people in every populous community too poor to pay for even the simplest dental operations, and for such provision should be made by organized charity or at public cost; but in a country as prosperous as this the difficulty lies not so much in the inability to pay as in the indisposition to make the expenditure. The average American is very apt to buy what he really wants, and if he fails to do so it is because there is something else he wants more. When he is convinced that there are many, many things now regarded as necessities which he can much better dispense with than he can with a healthy mouth and serviceable teeth, something at least of his purchasing power will be directed to their maintenance.

Hence, notwithstanding the fact that the laborers are increasingly many, the possible harvest is still more abundant. Dentistry has already secured a foothold in the army, tentative, it is true, and under conditions not fully adequate or satisfactory, but still a foothold. An even more important field for missionary labor is the public school system. In a number of cities medical inspection of public schools is a matter of daily routine, and has already demonstrated its value and importance. Periodical dental inspection in schools is sure to follow; it is only a question of time. If wisely and judiciously conducted, its possible influence for good can hardly be overestimated. Cleanliness* and hygiene could be enforced, incipient disease arrested, and an interest awakened in the care of the dental organs which could not fail to be in the highest degree

educative and salutary, thus promoting the well-being of the community and progressively enlarging the field of usefulness of the dental profession.—*Brief, May, 1901.*

* * *

CARBONIC ACID IN DENTAL PRACTICE. By M. Banckwitz, Stettin, in *Dent. Monats. f. Zahn.* Translated for *International* by Dr. W. H. Potter. In this paper carbonic acid gas is considered as a means for the removal of sensibility from dentin. The two theories as to the cause of sensitiveness in dentin are first fully stated. One theory assumes the existence of nerve-fibres in the contents of the dentinal tubules, and the other holds that nerve-fibres reach no farther than to the region between the odontoblastic cells of the pulp, and that they are here acted upon in some way by the dentinal fibres. The author does not claim to settle the disputed point as to the reason why dentin is sensitive, but proceeds to a statement of the uses of carbon dioxid in general medicine. These he states to be to produce relief from pain in carcinoma of the breast and uterus, and other tumors, and in neuralgia of the uterus, the effect lasting from one-half to one hour. Carbon dioxid is also used as a disinfectant in bad-smelling discharges from wound surfaces, in catarrh of the vagina, in chronic skin diseases, ozena, rheumatic affections, and other illnesses. In regard to the disinfection power of carbon dioxid exact investigations have been made by Kolbe.

In regard to the use of carbon dioxid in dentistry, the author says that he has given much time to the construction of an apparatus which makes it possible to apply the gas to dentin for the purpose of removing its sensibility. His apparatus, which is made by Louis H. Loewenstein, Berlin, consists of three parts—1. A carbon dioxid bottle filled with compressed gas. To it are added a reduction-valve and steam-gauge. 2. A warming apparatus. 3. A small mixing-tube, by means of which carbon dioxid can be mixed with a medicament. By this apparatus the gas goes from the storage bottle at a pressure of not over one-half atmosphere and enters the heating device, and is then discharged upon the tooth at the body temperature. The anesthetic effect can be increased by the addition of a twenty per cent cocain solution. This solution is mixed with the carbon dioxid in the mixing-tube. The author's rule is to use first the pure gas, then the medicated gas, and finally pure gas, and anesthesia is claimed in from two to three minutes.

It is interesting to note how the author explains the action of the carbonic acid gas in view of the two theories first stated in regard to the cause of the sensitiveness of dentin. Provided the dentinal fibrils contain no nerve-filaments, then the carbonic dioxid acts by impregnating the protoplasm of the dentin, and by its presence paralyzing it so that it conveys no impressions to the nerves of the pulp. If we allow that the dentinal fibrils contain nerve-fibres, then the carbon dioxid acts directly upon them.

A further use of a warm stream of carbonic gas is stated to be for the drying and disinfection of root-canals. The author mentions its use in the extraction of teeth and small surgical operations in the mouth as a proper field for investigation. When we consider what results can be accomplished in the removal of sensitiveness from dentin by the use of warm air alone, it would seem that special pains should be taken with the apparatus just described, to be sure that the results attained were really dependent on the peculiar action of carbonic acid gas, and could not have been produced by the drying effect of a current of warm air. The author brings out very clearly, however, the physiological proposition that carbon dioxid exerts a paralyzing effect upon protoplasm, and thus offers a plausible explanation of its action on the contents of the dentinal tubules.

SPHENOIDAL EMPYEMA.—M. F. Furet (*Presse Med.*) says that in simple cases in which the nasal fossæ are large and the sphenoidal sinus accessible through them, the nasal route is to be chosen in opening an empyema of the sphenoidal sinus. When the maxillary sinus participates in the inflammatory process, when cerebral affections complicate the sphenoidal inflammation (not a common combination), and when the nasal fossæ are small or deformed—under these circumstances the sphenoidal sinus should be attacked by the maxillary route by means of the trephine.—*N. Y. Med Jour.*

DAMAGES FOR X-RAY.—The Paris lower court has recently condemned a physician to \$1,000 damages and expenses on account of a severe X-ray burn that developed on a patient after three long exposures in the course of three weeks. The *Semaine Med.* comments that physicians must bear in mind that when they apply these new physical therapeutics they step out of the domain of medicine and pass into the jurisdiction of common law. According to this French decision, a fault or negligence is not necessary—the mere application of physical measures which resulted in injury renders the physician liable to damages. The editorial concludes with the remark that justice, as practiced in the courts, is not partial to the medical corps in these days, and it behooves physicians to be wary.

Letters.

NEW YORK LETTER.

NEW YORK, July 3, 1901.

To The Editor of The Digest,

MR. EDITOR:—June is the month of months and everything betokens life. In New York the trend is toward the country, moving vans are drawn up to the curbing for block after block to carry goods away to country villas. Rarely has a dentist ventured to follow the fad of boarding up his doors and windows, yet a few have closed. The majority, however, are at their posts trying to stay the ravages of that dire disease, dental caries. There seems to be no antidote in nature. Is it a skin disease? We all know that the teeth have a skin covering, which is perhaps where the expression arises, "He escaped by the skin of his teeth."

Amid the banking of flowers, and bright hopes for better days and a wiser, simpler practice, we introduce the notice of the Memorial Meeting held in honor of the late Dr. McKellops by the New York Odontological Society June 12. This society does nothing by halves, but deep black borders play no part in our view, and instead of the profession feeling sorry for our brother's taking-off they should be glad they had one with them so long who was possessed of so many good and noble qualities, and withal of so genial a nature. The memorial services showed the esteem in which Dr. McKellops was held. Fine vocal and instrumental music was furnished, and with the last selection an excellent photograph of Dr. McKellops was thrown on the screen, and a male quartet sang the "Old Kentucky Home." Short tributes were given by Drs. Darby, Northrup, Meeker, Perry, Kirk, B. Holly Smith and Stockton. The heat was intense, but a goodly number were present, including some from out of town—McManus of Hartford, Gaylord of New Haven, McQuillen of Philadelphia and others from that city and Baltimore. One thing said by Dr. Northrup should not be forgotten—"That we are not always sufficiently mindful of those that do and may pass from among us at any time." We think this has been markedly so in some cases of late. While there have been

kindness and attention paid to some while living, many others who have rendered mighty service are shown little appreciation until they are dead. A few flowers now will do the recipient more good than a wagon load after death, yet we do not seem to realize this.

Another veteran gone, solid and substantial as adamant, yet tender as a child—Dr. Morgan of Nashville. He was both post and pillar of the old American Dental Association and the representative member from the South. Few of these "wonderful giants of old" are now left.

Four months ago we remarked that the widow of the late Dr. Frank Abbott died suddenly, and in the *New York Herald* of June 6 we saw a notice of an auction sale at Dr. Abbott's late residence. From the long list of valuable articles which will be offered it is plain that all dentists do not die poor. At the time of his death it was reported that he possessed the finest residence with appointments of any dentist in New York City.

According to newspaper report, Albert Mix, a resident of New York, killed himself at Binghamton last month because he had lost his false teeth and lacked money to get others. As the boys say, he got things badly Mixed.

Dr. Kennedy, the dentist who has been on trial for over two years, is out on \$10,000 bail, and the indictment will probably be quashed. All Staten Island turned out and gave him a lunch at a hotel, shot off cannons and fireworks and made much of him. It is said that if his bail had been a quarter of a million it would have been met.

Last month we remarked that a cure for Riggs' disease was advertised in the newspapers for 50 cents a bottle. Probably owing to "increased consumption and lessened cost of manufacture" the price has now been raised to \$1 per bottle. The manufacturers are foolish, for if they have a cure for Riggs' disease they can easily get \$100 to \$1,000 per bottle for same. Some one has said that "a sucker is born every minute," so new schemes must be devised to take care of them.

We shall not tell you how hot it has been here in New York for fear you will not believe us. It is hard for us to understand how it can be cool anywhere else when it is simply broiling here, yet we understand the Windy City has been enjoying quite comfortable weather.

Cordially,

NEW YORK.

The Dental Digest.

PUBLISHED THE FIFTEENTH DAY OF EVERY MONTH

At 2231 Prairie Avenue, Chicago,

Where All Communications Should be Addressed.

Editorial.

MISSION OF NATIONAL DENTAL ASSOCIATION.

The National Dental Association, reckoning from the time the American was started, is of long standing. It has done much good work, yet what it has accomplished is only a drop in the bucket compared to what should have been done. This national organization should represent the sentiment and wishes of all the reputable members of the dental profession, and such would be the case if each state in the Union sent its full quota of delegates. They do not do so, however, and the result is, that instead of the National having 1200 to 1500 in attendance each year, it is considered to have a big meeting if 300 to 400 men are present. It must of course be taken into account that a goodly number of those present at the meeting place are not members of the National, but are connected with either the Faculties' or Examiners' Associations. In this connection we might remark that each member of these two representative organizations should feel it his duty not only to belong to the National but to give it his hearty support.

If the able men of the profession, those who take an active interest at home and in their own state, would join the National and assist in its deliberations its power for good would be almost unlimited. The N. D. A. should be legislative as well as literary in character, for a national body of this kind, with the membership it should have, could bring about laws and changes for the betterment of the profession impossible of accomplishment by any one or by any association of state societies. The unification of state laws and a uniform standard of requirements could be gotten well under way by the Examiners' and Faculties' Associations respectively and conjointly, but the National, if organized as it should be, could be of inestimable assistance to both of them.

The meeting at Milwaukee, Aug. 6-9, promises to be one of the largest and best ever held, and a much larger attendance than usual can be counted upon; consequently we would suggest that a certain part of the sessions be devoted to the discussion of ways and means whereby the membership of the National may be increased three or fourfold, and its scope of usefulness and power enlarged as it should be. We would urge every reputable member of the profession who can possibly do so to attend; not only will he be helping to put his calling on a higher plane, but he will take away from the meeting much more than he can give.

DUTY OF THE FACULTIES' ASSOCIATION.

Our leading article this month is the president's annual address delivered before the Illinois State Society recently. The point dwelt upon at most length by Dr. Reid was dental education, and the greater part of the discussion was devoted to this subject. Most noteworthy was the fact that three of the ablest thinkers present, all connected with leading dental colleges, criticised the Faculties' Association in no measured terms. Dr. Reid quoted freely from an article entitled "What will the Policy Be?" which was written by the late Theodore Menges and published in the June, 1900, number of the *DIGEST*. That same issue contained an editorial discussing Dr. Menges' article, and as conditions seem to be almost exactly the same now as they were a year ago we take the liberty of reproducing that editorial herewith—

"The article contains many strong and even radical statements, but we do not think they will be contradicted by any college men in the country. Coming from a well-known educator, and the secretary of one of the largest dental institutions in the United States, the article carries additional weight, for the criticism of the Faculties' Association in this case comes from one who was closely connected with it and not from an outside source.

"As Dr. Menges has said, the National Association of Dental Faculties has been given almost unlimited power by the dental profession, and must live up to the high ideals set for it or else forfeit the confidence, respect and support of all practitioners. We are not sufficiently versed in this matter to suggest any course of action, but we certainly feel that there is a great chance for improvement in dental educational affairs, and the profession looks to the Faculties' Association to better present conditions. We think enough rules have been passed, but it is an open secret that several of the

laws set forth by the N. A. D. F. have not been lived up to by many of the schools belonging to that organization. College men do not hesitate to state that such is the fact, and in this remissness we believe most of the evil lies.

"For several years we have been urging that the greatest improvement in dental education would come when the Faculties' and Examiners' Associations could consent to bury petty jealousies and pride and work together. This year the two organizations meet at the same time and place, and if the predicted harmony materializes we shall hope to see these two ruling bodies at last acting in concert. At present the question of what the qualifications shall be is wholly in the hands of the Faculties' Association. Perhaps it should remain there, but we feel that the state boards and National Association of Dental Examiners can render great service to the profession and to the Faculties' Association by aiding that latter organization in enforcing the regulations laid down by it.

"Just now the state examining boards are with few exceptions doing their work in a most careless and slipshod manner, and are not nearly covering their possible field of usefulness. If, however, the Faculties and Examiners could once come to an agreement, each would greatly help the other and both would be in better repute among the profession. The unification of state laws can be brought about by these two organizations more readily than by the whole dental profession combined. Furthermore, if the Faculties' Association lived up to its rules and regulations, and the examining boards knew this, there would in all probability be no need for graduates to pass examinations, as their diplomas would entitle them to a license. There is a great and honorable future for both the Faculties' and Examiners' Associations, if they will only live up to their opportunities and the best there is in them."

We may be mistaken, but it seems to us that the time has come when the Faculties' Association must either dissolve its organization or live up to its rules. As it is now the good schools are classed with the poor ones, and not only is the National Association of Dental Faculties rapidly losing caste in this country and abroad, but American dental diplomas are becoming a laughing-stock in Europe. We should not like to see the Association disbanded, for if properly managed it can not only raise the standard of dental education to where it should be, but can make it impossible for diploma mills and those schools which do not give a student full value for his money, to exist. Action must be taken this year, however, or the opportunity will be irretrievably lost. To quote the closing line of the article before mentioned, "School men, the eyes of the profession are upon you! What will your policy be?"

Notices.

NORTH DAKOTA STATE DENTAL SOCIETY.

This organization met June 7, 1901, and elected the following officers: Pres., R. S. Ramsay; V.-P., F. S. Smith; Sec., C. C. Herrick; Treas., A. Hallenberg; Ex. Com., S. J. Hill, L. C. Davenport, J. F. MacQueen.

MARYLAND STATE DENTAL ASSOCIATION.

This Association elected the following officers June 27, 1901: Pres., C. J. Grieves; V.-Ps., H. C. Wilson and W. G. Foster; Rec. Sec., W. W. Dunbracco; Cor. Sec., F. F. Drew; Ex. Com., E. E. Cruzen, A. C. Brewer, G. R. Carter.

INDIANA STATE DENTAL ASSOCIATION.

The Board of Trustees of this Association elected the following officers last month: Sec., F. A. Hamilton; Treas., C. W. Throop; Mem. Ex. Com., H. D. Weller. The next annual meeting of the Association will be held at Lake Maxenkuckee, June, 1902.

SOUTH DAKOTA STATE DENTAL SOCIETY.

The annual meeting of this organization was held June 14, 1901, and the following officers were elected: Pres., F. E. Field; V.-P., G. W. Collins; Sec. and Treas., C. L. Blunt. The next annual meeting will be held at Watertown the third Tuesday in June, 1902.

MICHIGAN STATE DENTAL ASSOCIATION.

This Association elected the following officers June 6, 1901: Pres., C. H. Oakman; 1st V.-P., D. A. Honey; 2d V.-P., C. C. Noble; Sec., F. H. Essig; Treas., G. H. Mosher; Mem. Board of Censors, H. C. Raymond. The next annual meeting will be held at Grand Rapids, 1902.

MISSISSIPPI STATE DENTAL ASSOCIATION.

At the annual meeting of this organization, held at Yazoo City, June 11-13, 1901, the following officers were elected: Pres., H. C. Clements; V.-P., A. B. Kelly; Sec., L. G. Nisbit; Treas., B. C. Crowder. The next annual meeting will be held at Biloxi the third Tuesday in May, 1902.

CHICAGO DENTAL SOCIETY COMMITTEE.

The committee appointed by the Chicago Dental Society has made arrangements with the Goodrich Line Steamboat "Virginia" to leave Chicago at 9 p. m. for Milwaukee Monday, Aug. 5, to attend the N. D. A. We would like to have the members join us. Have your R. R. tickets read via Goodrich Steamboat Line Chicago to Milwaukee, and you will get the benefit of the 1-3 fare round trip. Berths, 75 cents. Rate from Chicago to Milwaukee and return, \$1.25. Berths can be reserved by sending to the undersigned.

FRANK H. GARDINER,

Chairman of the Committee, 843 Marshall Field Annex, Chicago.

GEORGIA STATE DENTAL ASSOCIATION.

At the annual meeting of this organization, held at Macon, June 11-13, 1901, the following officers were elected: Pres., H. H. Johnson; 1st V.-P., A. M. Jackson; 2d V.-P., E. A. Tigner; Rec. Sec., H. McKee; Cor. Sec., O. H. McDonald; Treas., H. A. Lawrence. The next annual meeting will be held at Macon in June, 1902.

SOUTH CAROLINA STATE DENTAL ASSOCIATION.

At the thirty-first annual meeting of this Association, held at Charleston, June 4-6, 1901, the following officers were elected: Pres., T. J. Crymes; 1st V.-P., A. T. Peete; 2d V.-P., Thos. Dotterer; Rec. Sec., R. A. Smith; Cor. Sec., J. E. Boozer; Treas., G. W. Dick. The next annual meeting will be held on the Isle of Palms in 1902.

AMERICAN DENTAL SOCIETY OF EUROPE.

At the Easter meeting of this society, held at Cologne, the following officers were elected: Pres., W. E. Royce; V.-P., F. Foerster; Treas., W. A. Spring; Sec., L. J. Mitchell. The next meeting will be held at Stockholm in August, 1902.

The following resolutions were adopted: Whereas we, the members of the American Dental Society of Europe, have learned with deep regret of the death of our distinguished colleague, Dr. Theodore Emmanuel Lecaudey, therefore be it resolved, that by this sad event our profession has lost one of its most revered members, whose fame belonged not only to his own country, but was also the prized possession of the civilized world. Resolved, That we offer to his afflicted family the assurances of our respectful sympathy.

W. E. ROYCE, N. S. JENKINS, W. R. PATTON, Com.

RESOLUTIONS PASSED BY PENNSYLVANIA ASSOCIATION OF DENTAL SURGEONS ON DEATH OF DR. THEODORE F. CHUPEIN.

At a regular meeting of this association April 9, 1901, the following resolutions were adopted:

WHEREAS, With profound regret the Pennsylvania Association of Dental Surgeons is called upon to notice the death of Dr. Theodore F. Chupein, an old, tried and faithful member, it is meet and fitting that it should place on record its appreciation of his long and faithful services as a member, and of his far-reaching, earnest and valued services to the profession he loved. Dr. Chupein became a member of this organization Sept. 13, 1876, and at once took an earnest and active part in all its work, which he has continued with unflagging zeal. He was elected recording secretary Oct. 9, 1877, and by reelection continued to serve until his death, March 23, 1901. His earnestness in professional work, his faithfulness as a member and officer of this association, his manliness and friendliness, well merit our most profound appreciation and respect.

Be it therefore resolved, That by the death of Dr. Theodore F. Chupein the dental profession has lost an earnest and progressive member, and this society a firm and fast friend.

Resolved, That, bowing in humble submission to the will of Him who doeth all things well, we hereby express our heartfelt sympathy to his bereaved wife and family; and be it further

Resolved, That a copy of these resolutions be transmitted to his family and published in the dental journals. J. CLARENCE SALVAS, Secretary.

WILBUR F. LITCH,
WILLIAM H. TRUEMAN, } Committee.

RESOLUTIONS BY CHICAGO ODONTOGRAPHIC SOCIETY ON DEATH OF DR. WM. H. MORGAN.

WHEREAS, In the death of Dr. William H. Morgan of Nashville the dental profession has lost a prominent man, made so through his own efforts entirely, genial in disposition and ever ready to give advice to those in need of it, constantly striving for the advancement of his chosen life work, in which he held many enviable positions; therefore be it

Resolved, That the Odontographic Society of Chicago expresses its appreciation of him as a man and a dentist, and trusts its members will emulate his example; and to his family do we extend our sympathy at the change which came to a well rounded life; and be it further

Resolved, That a copy of these resolutions be sent to the family, the dental journals, and be spread upon the minutes of this society.

GEO. B. PERRY,
GEO. N. WEST, } Committee.
DON M. GALLIE,

RESOLUTIONS BY MISSISSIPPI VALLEY ASSOCIATION OF DENTAL SURGEONS ON DR. McKELLOPS' DEATH.

At a meeting of this association (the oldest dental society in the world), of which Dr. McKellops was a faithful and earnest member, the following resolutions were adopted:

WHEREAS, In the providence of the great Creator of the universe He has been pleased to remove from earth's trials and sorrows our beloved friend and colaborer, Dr. H. J. McKellops, who for many long years has been a devoted worker in the interest of his profession and for the benefit of mankind. He was a constant attendant at the different associations of the profession, especially at the meetings of this body, where his generous features beamed with delight and enthusiasm as he met his friends of years ago. He always brought with him to these meetings something of interest, either in mode of procedure or some valuable appliance, and always took part in the deliberation of its members. He was free in his manners, having no secrets to himself, and liberally assisting those who came to him for aid. In his demise the profession has been deprived of a devoted laborer in the vineyard, and one who never shirked a duty assigned him.

Therefore be it resolved, That we cherish in memory the many virtues of our friend, feeling that our loss is his gain, and we may never meet his like on earth again. May his example cheer and inspire us along the pathway of life, till the dark future lets its curtain down and we are swallowed up by eternity.

Resolved, That although he is forever gone from us we may benefit by what he has done in his love for the profession and his sincere attachment to his friends.

Resolved, That we commend his spirit to Him who gave it, and that we may in the future commune with it, freed from the dross of life and purified by the troubles through which it has passed.

Resolved, That the secretary be instructed to extend our sincerest sympathy and condolence to the family in this their great bereavement, and that a copy of these resolutions be sent to them and to the editors of the different dental journals of the country.

E. G. BETTY, J. TAFT, WM. TAFT, D. W. CLANCOY, H. A. SMITH, H. T. SMITH, C. M. WRIGHT and R. J. PORRE, Committee.

LATEST DENTAL PATENTS.

- 668,821. Dental chair mechanism, R. W. Sonnex, England.
- 668,873. Dental handpiece, C. P. Fritz, Philadelphia.
- 668,488. Amalgam squeezing machine, J. V. Coleman, San Francisco.
- 668,492. Cusp-press for tooth-crowns, C. A. Covalt, Philadelphia.
- 669,031. Dental press for compressing flasks, J. P. Gomes, Brooklyn.
- 669,092. Dental regulator and spacer, H. M. Martin, Peoria, Ill.
- 669,100. Electric lamp, P. M. Randell, New York.
- 669,197. Dental vulcanizer, A. W. Feltmann, H. Hartwig, Chicago.
- 669,402. Toothbrush, C. Reese, Germany.
- 669,665. Mold for artificial teeth, B. Robinson, Philadelphia.
- 669,963. Artificial tooth, W. K. Slater, Knoxville, Tenn.
- 670,604. Dental plate, A. Biber, Germany.
- 670,773. Dental chair, E. M. Fredericks, Chicago.
- 671,299. Head-rest for dental chair, G. Sibley, Philadelphia.
- 671,929. Rubber-dam, C. F. Horgan, Philadelphia.
- 672,163. Removable denture, A. C. Caldwell, St. Paul.
- 672,393. Fountain spittoon, J. C. Blair, Louisville.
- 672,841. Electric mallet, C. D. Olsen, Denver.
- 672,920. Dental plugger, H. Shoemaker, Philadelphia.
- 673,019. Support for artificial denture, V. W. Gilbert, Philadelphia, assignor.
- 673,021. Anesthetic inhaler, W. B. Hidden, Boston.
- 673,302. Combination bridge, D. P. Tanco, Kingston, Jamaica.
- 674,332. Draw-plate for seamless crowns, B. J. Brewer, San Francisco.
- 674,419. Root-canal filling, C. T. Kinsman, Williamstown, Mass.
- 674,423. Speed regulator, G. E. Loeb, Chicago, assignor.
- 674,449. Dental bridge-work, J. B. Morgan, Davenport, Iowa.
- 674,565. Head-rest for chairs, F. Ritter, Rochester, N. Y.
- 674,581. Swaging dental plates, N. C. Leonard, McMinnville, Tenn.
- 674,650. Tongue-holder, A. W. Lundborg, San Francisco.
- 674,761. Amalgam instrument, P. J. Friedrichs, New Orleans.
- 674,884. Swaging crowns, B. B. Brewer, Wm. Burfeind, San Francisco.
- 675,674. Device for dental chairs, F. Ritter, Rochester, N. Y.

- 677,268. Dental matrix, R. B. Power, Green Bay, Wis.
677,565. Dental clamp, J. A. Dunn, Chicago.
677,577. Dental forceps, H. N. Lancaster, Chicago.

News Summary.

A. C. HART, a dentist of San Francisco, died May 28, 1901.
M. C. McNAMARA, 72 years old, a dentist at St. Louis, died June 17, 1901.
W. M. GEORGE, 57 years old, a dentist at Elkhart, Ind., died June 7, 1901.
W. L. BROWN, 36 years old, a dentist at Nashville, Tenn., died June 16, 1901.
JAMES LEWIS, 81 years old, a dentist at Burlington, Vt., died June 7, 1901.
J. L. FORDHAM, 70 years old, a dentist at Green Ridge, Pa., died June 29, 1901.

THEODORE HUBBARD, 69 years old, a dentist at Medical Lake, Wash., died May 30, 1901.

HARRY G. MOYLAN, 25 years old, a dentist at Philadelphia, killed himself June 4, 1901, while despondent.

F. J. R. HEMPLE, a dentist at Marinette, Wis., accidentally shot and killed himself June 8, 1901, while hunting.

TENDER-HEARTED.—A dentist writes that his wife is so tender-hearted that she makes him give the children gas before she whips them.

UNIVERSITY OF MICHIGAN, COLLEGE OF DENTISTRY held its annual commencement exercises June 20, 1901, and graduated 74 students.

DENTIST VS. EGOTIST.—There is a great difference between the two—the former gives an "I" for an "I," but the latter does not always give a tooth for a tooth.

SMALL PERCENTAGE PASSES.—The Ohio State Board of Dental Examiners announces that only four of the fifteen candidates who took the June examination passed.

UNIVERSITY OF SOUTHERN CALIFORNIA, COLLEGE OF DENTISTRY held its annual commencement exercises June 11, 1901, at Los Angeles, and graduated 22 students.

CHARLES D. SANDERS, a dentist at Maidensville, W. Va., tried to board a rapidly moving trolley-car in New York June 23, but fell to the pavement and fractured his skull. He is not expected to recover.

MONTANA STATE BOARD OF DENTAL EXAMINERS organized for the year June 6, 1901, and elected the following officers: H. J. Wirth, Pres.; W. A. Tudor, V.-P.; D. J. Wait, Helena, Sec., E. A. Myers, Treas.

INGENIOUS ADVERTISING.—A New York physician evades the unwritten law of the profession against advertising by writing letters to his clients thanking them for their appreciation of his services and outlining what he has done for them. He then misdirects the letters, accidentally, of course, and they reach those whom the doctor desires as patients.

JOHN G. JESSUP, a dentist at Berkeley, Cal., was shot and killed June 17, 1901, by a clergyman, Chas. G. Adams, crazed with drink. The unfortunate man was trying to protect the clergyman's children from the blows of their drunken father.

HARRIS (PA.) DENTAL SOCIETY held its annual meeting June 12, 1901, and elected the following officers: Pres., D. S. Smith; V.-P., H. K. Baer; Sec., W. H. Rodgers; Treas., W. H. Trout; Ex. Com., H. D. Knight, B. F. Wittmer, G. S. Wagner.

L. P. BETHEL, of Kent, O., editor of the *Ohio Dental Journal*, has been appointed Dean of the Faculty, and Professor of the Principles and Practice of Operative Dentistry in the Dental Department of the Ohio Medical University, Columbus, O.

CALIFORNIA STATE BOARD OF DENTAL EXAMINERS.—On May 30, 1901, the Governor of California appointed the following men to serve on the state board: J. W. Dunn, R. H. Cool, F. J. Bethel, H. R. Harbison, F. R. Cunningham, F. G. Baird, G. E. Schillig.

OCTOGENARIANS AT IT AGAIN.—This time it is a man 78 years old at West Baltimore, Md. Three new teeth made their appearance recently and grew so rapidly and to such a length that he broke them off, as they were growing through his tongue. O! these gullible newspapers.

KENNEDY FREE.—S. J. Kennedy, the dentist of New York City who has been on trial for over two years for the murder of a woman, was released under \$10,000 bail June 18, after the jury had disagreed for the third time. The case will probably never again be brought to trial.

BOSTON AND TUFTS DENTAL ALUMNI ASSOCIATION held a banquet at Boston June 18, 1901, and elected the following officers: F. S. Fogg, Pres.; H. H. Piper and J. W. Forbes, V.-Ps.; M. L. Woodward, Sec. and Treas.; William Rice, J. F. Allen, M. E. Gallup, R. J. Weatherbee, Ex. Com.

IOWA STATE BOARD DELINQUENT.—According to newspaper report the Iowa State Board of Dental Examiners has not made a report of receipts and expenditures to the governor for seven or eight years. The present board is not blamed, as it has been in office less than one year.

LOCKJAW FOLLOWS EXTRACTION.—A young woman in New York City had a tooth pulled recently and soon after lockjaw set in. The physicians in the hospital to which she was taken declared that a root of the tooth which was left in the gum caused the disease. She died in two weeks.

INSULT TO INJURY.—“You have no nerve at all,” said the disgusted dentist to the patient who was making a frightful fuss. “Now listen to that,” returned the latter warmly—“blaming me for lack of nerve when you just said you had extracted most of it and intended to kill what was left.”

HYDRAULIC CHAIR.—“The new dental parlors of Dr. Blank are most elegant. He has a new hydraulic chair that is a wonder in its many different adjustments. He is fixed for business, and ought to be able to give satisfaction to his patrons.”—*Martinsville (Ill.) Planet*. He certainly ought with an outfit like that.

MORE EXPLOSIONS.—Last month a dentist at Syracuse, N. Y., was making nitrous oxid gas when it exploded by spontaneous combustion. He will buy his gas hereafter. The vulcanizer of a dentist at Lancaster, Wis., also blew up last month. One of the flasks contained in it went through the ceiling, and the other broke off a tooth in the mouth of the dentist's son.

NORTHERN ILLINOIS DENTAL SOCIETY.—It is reported that Dr. C. J. Sowle of Rockford is already hard at work getting up the program for the meeting of this society which will be held at Joliet Oct. 16 and 17. He has ideas of his own in regard to what makes an interesting meeting and great things are expected. Illinois dentists as well as those from other states should mark off the dates on their appointment books now.

WISCONSIN STATE BOARD DEFEATED.—Last month we remarked that this board had refused to recognize a diploma of the Wisconsin College of Physicians and Surgeons, and that the graduate holding same had begun mandamus proceedings to compel the board to recognize his sheepskin. The case came to trial June 25, and the court held that the board must recognize the diplomas of the school in question. A stay of proceedings was granted, however, and the board will at once take an appeal to the Supreme Court.

INGENIOUS SWINDLE.—The postoffice authorities of Washington are now investigating the case of a doctor who advertised to cure deafness, without fail, for \$18.50. Persons sending this amount were forwarded 2,000 pills, with instructions to take one each day, and on no account to miss a day, or the charm would be broken and it would be necessary to start all over again. As the truth of the doctor's claim cannot be proved until the end of five and one-half years, the authorities are puzzled what course to take.—*American Medicine.*

NARROW ESCAPE.—A dentist at Plymouth, Ind., drove out into the country to deliver a set of false teeth which he had made for a woman living on a farm. As he came in sight she saw him and remarked to her daughter that she "must go in the house and spruce up a bit before the doctor comes." After waiting some time the daughter went in to see what kept her mother so long, and found her lying dead on the floor, having probably been stricken with apoplexy or heart failure. If she had died while the dentist was putting in the teeth he would probably have been the defendant in a damage suit.

INCOMPETENT DENTISTS LIABLE FOR DAMAGES.—Recently a New York court held that a physician was liable for unskilful or negligent treatment of a patient, and now the Court of Appeals of that state has rendered a decision holding a corporation liable for unskilful dental work. The corporation in question, according to the complaint, represented that it carried on the practice of dentistry in connection with its other departments. A woman, having undergone treatment, sued for alleged resultant injury, and received a verdict. The corporation's defense was that the dental business was not carried on by it but was owned by the dentist. The court, however, held that the company having advertised itself as carrying on a dental department, the plaintiff had a right to suppose that a skilful dentist would

be employed, and that whether he was skilful or not she had a responsible party to answer in damages for any malpractice. Department stores advertising dental offices will do well to look into this.

HOW HE SETTLED THE BILL.—"A well-known physician recently sent to the address of one of his patients a bill for professional services, and within ten days received the following letter written on the back of his memorandum: 'Dear Sur: This note was put in my box by mistake. I han't the man; hee's dead and aint no relation of mine anyway. I don't see how your consheens will let you dun the dead. Why don't you live a better criston life and let live and try to meat that man who dide in heaven which is worth moar than forty dollars to enny doctor.'"

BASTINADO RESUSCITATOR.—Dr. Carleton of New York relates how a patient stopped breathing under ether anesthesia, and did not revive, even after the faithful use of all the usual means of restoration, and was finally given up for dead as he entered the room. Bethinking himself of the policeman's mode of arousing drunks, he seized a slipper that lay handy, had the patient's stockings quickly stripped off, and slapped the soles of both feet as hard and as quickly as he could. Respiration was resumed within less than one minute.—*Phila. Med. Jour.*

CONVERSATION AND DENTISTRY.—From far-away Vienna comes the word that the dental society of that city has passed resolutions pledging its members to master "Esperante," another artificial system of universal language invented by a Russian scholar. It will be remembered that these same Vienna dentists some months ago pledged themselves to become masters of the art of conversation, because at that time these Austrian gentlemen attributed the remarkable success of American dentists more to their superlative conversational abilities than to the superior character of their workmanship.

NO PAY, NO CROWN.—A dentist at Indianapolis agreed to put a crown on a woman's tooth for a certain price. So soon as the crown was in place she told the operator she did not have the money and did not know when she would have it. He asked her to take the chair again, stating that he wished to examine the crown further, and when she did so he quietly removed it, the cement being still soft. The lady has now brought suit for \$200 damages, claiming that "he extracted the crown in a rude, insolent and violent manner, to her great pain, embarrassment, indignation, mental anguish, inconvenience, insult and humiliation."

BANQUET TO DR. W. M. BARTLETT.—Dr. Bartlett retired from the Missouri State Board of Dental Examiners June 21, 1901, after serving as a member of the board for four years, to accept the chair of prosthetic dentistry in the Missouri Dental College. On the evening of June 22 the Good Fellowship Dinner Club of St. Louis gave Dr. Bartlett a banquet, and presented him with a loving cup, upon which was inscribed the following: "Presented to Dr. Walter M. Bartlett by the Good Fellowship Dinner Club of St. Louis as a testimonial of their appreciation of his valuable services while a member of the Missouri State Board of Dental Examiners."

VENEREAL WARTS OF TONGUE.—Dr. Heidingsfeld showed, by means of lantern slides, specimens of extragenital venereal warts of the tongue, taken from a case shown Nov. 28, 1900. Some exception was taken to the diagnosis at that time, but the pathologic examination has revealed the lesions to be typical venereal warts corresponding in appearance and structure to the same lesions on the genitals of the case in question. He also reported another case with the same distribution, showing the same pathologic structure, which case had recently come under his notice.—*Jour. A. M. A.*

LARGE SALIVARY CALCULUS WITHOUT SYMPTOMS; SPONTANEOUS EXTRUSION.—George J. Maguire reports the case of a man aged forty-five years, who for four years had had a salivary calculus which never even caused a passing feeling of discomfort and certainly none of the pain usually incident to this affection. One day the patient noticed a small white spot on the floor of the mouth which felt hard and gritty on touching it with a needle. A few minutes later, while eating a meal, a large, hard mass was suddenly with some force extruded. The calculus was large, white, ovoid, and weighed forty-five grains.—*Brit. Med. Jour.*

CRIME CAUSED BY BAD TEETH.—A dentist at Racine, Wis., has made exhaustive investigations at the County Insane Asylum, and concludes that defective teeth have a tendency to cause men to commit crimes and even to drive them insane. Knowledge of this having come to the attorneys of a man arrested for theft, they will offer as a defense that his bad teeth made him irresponsible. According to newspaper report, a man at Glen Haven, Wis., went crazy June 1 as the result of an ulcerated tooth, and his life is despaired of, as neglect of the trouble has made him a mental wreck. This would tend to confirm the dentist's theory.

"STUN HIM, BILL."—According to a western traveler, the painless dentist is an important factor out there. "One afternoon," said the traveler, "I was nearly mad with toothache when I reached a town and saw this inscription on a store: 'TEETH YANKED OUT WITHOUT A TWINGE.' Entering the place I asked for the dentist. 'That's me, boss,' replied a raw-boned mountaineer. 'Do you extract teeth painlessly?' I asked. 'That's jest it,' he answered. 'Set down.' I took my seat, the dentist produced a curious looking instrument from his pocket, and shouted for his assistant, then said to the latter, 'I'm ready, Bill. Stun him.' 'And,' concluded the traveler, 'there you are.' Very simple, isn't it?"

OLD ADVERTISEMENT.—An almanac of the vintage of 1836, published in New York City, has recently turned up, and the following advertisement has been discovered in it: "DENTIST. Warren St., near Broadway. Continues to perform all operations on the teeth upon the most improved scientific principles, and reserves to himself the exclusive use of his PATENT PERPENDICULAR TOOTH EXTRACTOR, now brought to great perfection, and pronounced in the opinion of many eminent physicians and surgeons decidedly superior to any instrument in present use. INCORRUPTIBLE PORCELAIN, NATURAL AND OTHER TEETH, inserted singly or in entire sets, so as to preserve to the wearer all the advantages of mastication, articulation,

etc. Teeth filled with gold, metallic paste, or fusible metal, etc., at moderate charges."

BAD LUCK WITH TEETH.—A Chicago dentist reports that he furnished two teeth on a plate for a young woman patient. The first night she wore them to bed, and during sleep they fell onto the floor, where she stepped on them in the morning and broke the plate. The dentist then made another, and that night the patient put her teeth in a glass of water on the mantel. Her husband wanted a drink in the night and threw the water and contents out of the window. The third set was put on the mantel and forgotten for a day or two, and the maid swept this plate off into the grate and burned it up with the rubbish. Then the lady left town, so the dentist does not know how many more plates she had made. At any rate, she was honest, as most plates are broken "while eating soft bread," or "while drinking a glass of water."

INDIA-RUBBER SUBSTITUTE.—A material which "possesses all the qualities of rubber" is made from the latex of *Tabernaemontana crassa* and china grass or rhea fibre, the proportion of latex being 72 to 80 per cent of the materials used. A hard material like vulcanite may be produced. The fibre is first desiccated to remove volatile matter, and then well mixed with the latex by working through rolls at 120 deg. F. The mixture is then heated in an oven at temperatures rising to 300 deg. and maintained at about 360 deg. for two hours, after which it is again worked in the hot rolls, and simultaneously mixed with 5 to 8 per cent of sulphur or manganese borate and potassium permanganate, or other oxidizing substance. Ten per cent of balata may be added. After standing forty-eight hours the process is completed by steaming the material for two or three hours under pressure.—*Pharmaceutical Jour. (London.)*

POLISHING ALUMINUM PLATES.—Dr. H. E. Naumann of Quincy, Ill., sends us the following description of the method of polishing aluminum plates: "It is a very difficult matter to obtain a satisfactory finish to an aluminum plate. No matter what means are used in polishing, there is always a dull lead color, so unlike the bright appearance of this useful metal in its pure state. This can be overcome, after the final polish has been given with brush wheels, etc., by coating the plate with a strong solution of caustic soda. Use a pledget of cotton on pliers dipped in the solution, coating the metal freely on both sides, allowing it to remain two or three minutes, then wash thoroughly with soap and water. If there still be dark spots, apply again to those places until they disappear. The solution will not affect the rubber attachments and will enhance the appearance of the finished plate fifty per cent."—*Items.*

PARTIAL TRAUMATIC PARALYSIS OF TRIFACIAL NERVE. By Henry M. Fisher, M.D.—Michael S., while working in a stable one month ago, was struck by a companion with a pitchfork. One of the prongs of the fork caused a pretty severe lacerated wound of the mucous membrane of the right cheek and the other made a penetrating wound of the left lower eyelid about one-third of an inch to the left of the middle of the eyeball. He

was taken to the hospital, where the wound of his right cheek, which was bleeding profusely, was sutured. For two or three days there was complete anesthesia of the left side of his face and he experienced difficulty in speaking and in swallowing. Anesthesia is no longer absolute on the affected side, but even now, if he does not pay strict attention, part of his food regurgitates through his left nostril. No hemianesthesia of the tongue. For a few days hearing was slightly impaired in the left ear and even now he experiences occasional deafness on that side.—*Phila. Med. Jour.*

SEBACEOUS GLANDS.—Lublinski describes at some length one case, and more indefinitely a series of cases in which he has observed sebaceous glands in the mucous membrane of the cheeks. The one patient whose case was described at length was a physician. The inner surfaces of the cheeks were covered with numerous small yellowish papules which produced no subjective sensations. There was no history to explain their occurrence. Other patients in which they were observed had usually a history of excess in the use of alcohol or tobacco, dyspepsia, the use of mercury, or other similar causes. They were not infrequently seen in diabetes and gout. They usually appeared in the interdental spaces, and were comparatively rare on the lips. They commonly caused no symptoms, and were accidentally discovered. Microscopic examinations, which were undertaken in a number of cases, showed that they were undoubtedly sebaceous glands.—*Deut. Med. Wochenschr., Phila. Med. Jour.*

IT WASN'T A FUNERAL.—One day when George Ade was out walking with a guide in the naval quarter of Kioto, Japan, he observed coming down the street the head of a great procession. Interested at once, he paused to watch the procession pass. On they came, gaudy in apparel, but grave in face, flaunting flags and great banners on which were Japanese inscriptions. The mournful chant which announced their approach was broken only when the kettle-drums or tomtoms were pounded or the cymbals clashed. As the weird and solemn procession approached Mr. Ade uncovered and bowed his head reverently, it being his custom and settled principle invariably to show the highest respect for the rites and ceremonies of the people with whom he comes in contact. He is a firm believer in the doctrine, "When in Rome do as Romans do." His face was very grave. The procession was long—nearly a block in length—but Mr. Ade remained uncovered during the entire time of its passing. Once or twice he glanced at the guide out of the corner of his eye. He thought he saw on the man's face a puzzled expression. Finally, when the procession had passed, he replaced his hat and addressed himself to the wondering guide.

"Buddha?" he inquired.

The guide looked more puzzled.

"Shinto?" then asked Mr. Ade.

"I do not understand," the guide finally said.

"Was not that a funeral procession?" inquired Mr. Ade.

A light began to dawn upon the guide's face. He almost smiled as he replied: "No; tooth-powder!"—*Kansas City Times.*

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